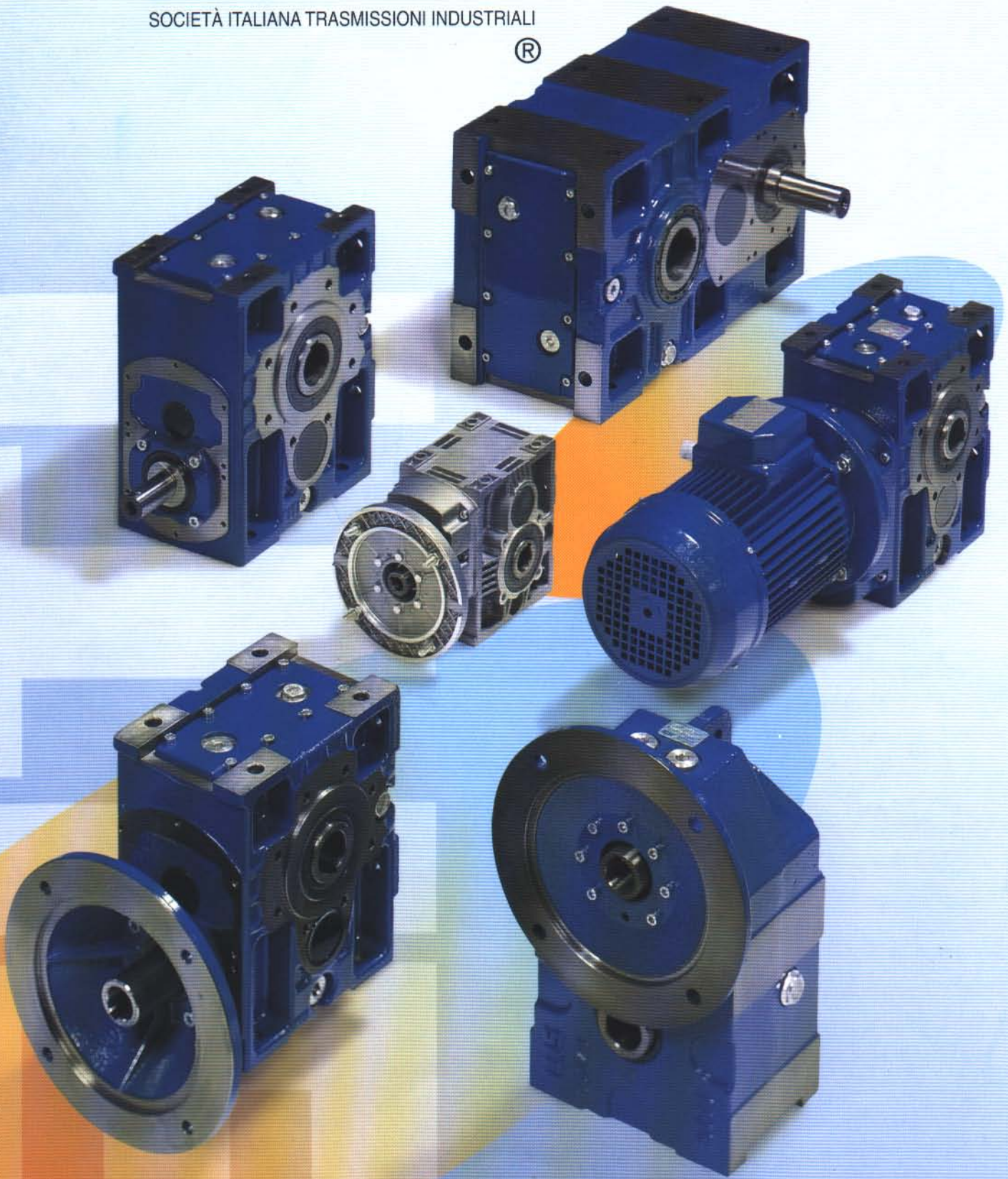


# SITI

SPA

SOCIETÀ ITALIANA TRASMISSIONI INDUSTRIALI

®



RIDUTTORI AD ASSI ORTOGONALI  
BEVEL HELICAL GEARBOXES  
KEGELSTIRNRADGETRIEBE

**OT/PL/PD**

RIDUTTORI AD ASSI PARALLELI  
PARALLEL SHAFT GEARBOXES  
STIRNRADGETRIEBE MIT PARALLEL  
ANGEORDNETEN WELLEN

RIDUTTORI PENDOLARI  
SHAFT MOUNTED HELICAL  
GEARBOXES  
FLACHAUFSTECKGETRIEBE

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- Riduttori dotati di rotismi a due o a tre stadi di riduzione:
- sugli "OT":  
I due stadi di riduzione sono formati da una coppia conica a dentatura spiroidale Gleason ( dentature tipo Duplex) e da una coppia finale cilindrica elicoidale con profilo ad evolvente, accuratamente corretto per una migliore resistenza ai carichi; i tre stadi di riduzione sono ottenuti aggiungendo un ulteriore stadio preliminare (precoppia) formata da due ingranaggi cilindrici con dentatura elicoidale, anch'essi accuratamente corretti per ottimale resistenza ai carichi.
- Sui riduttori PL e PD, sia la prima che la seconda riduzione sono realizzate con ingranaggi cilindrici a denti elicoidali con profili accuratamente corretti. Anche per questi riduttori, il terzo stadio di riduzione è ottenuto aggiungendo a monte (entrata riduttore) un ulteriore stadio di riduzione formato da due ingranaggi cilindrici con dentatura corretta.
- Sono realizzati in 5 grandezze: 63 - 80 - 100 - 125 - 160 (il numero che definisce la grandezza rappresenta l'interasse della riduzione finale secondo la serie di Renard R 10). Grandezza 56 disponibile solo per gli OT.
- Le coppie nominali trasmissibili sono comprese fra 100 Nm. e 4350 Nm.
- La capacità di carico delle dentature è stata verificata secondo le norme DIN 3990, UNI 8862, AGMA 2001 B 88 ed il progetto ISO 6336, con calcolo della resistenza sia al pitting che a flessione al piede del dente, per una durata nominale accuratamente bilanciata ed estremamente elevata.
- Gli alberi di ingresso, intermedio e di uscita sono tutti supportati da cuscinetti a rulli conici per una migliore regolazione del gioco e per maggiore resistenza ai carichi radiali e assiali.
- Gearboxes provided with trains of gears at 2 or 3 stages of reduction:
- on the "OT" range:  
**The two stages of reduction consist of one bevel gear pair with spiral Gleason toothing (Duplex type) and one cylindrical final gear pair, with involute profile, accurately corrected in view of an improved strength: the three stages of reduction result from adding a further cylindrical helical gear pair, upstream of the other two stages, with accurately corrected involute profile in view of an excellent resistance to stresses.**
- On the PL and PD gearboxes, both the first and the second stage of reduction are accomplished with cylindrical helical gear pairs, with accurately corrected profiles. **Even for these series of gearboxes, the third stage of reduction is obtained adding a further stage of reduction (primary reduction) provided with a cylindrical helical gear pair with corrected profile.**
- They are manufactured in 5 sizes: 63 - 80 - 100 - 125 - 160 (the number relevant to gearbox size means the center-to-center distance of the final reduction stage according to the Renard series R 10). Size 56 available for OT only.
- The rated transmissible torques are included in the range from 100 N.m to 4350 Nm.
- Load capacities of toothing comply with DIN 3990, UNI 8862, AGMA 2001 B88 norms and the ISO 6336 draft proposal, both with the surface pitting resistance and the tooth root bending strength calculation, in view of an accurately balanced and extremely high nominal life.
- Input shafts, output shafts and intermediate shafts are all supported by taper roller bearings, in view of an improved adjustment of backlash and high strength to radial and axial loads.
- Für diese Getriebe sind zwei oder drei Unterstufungsstufen vorgesehen:
- auf "OT" Baureihe:  
Die zwei Getriebestufen werden durch eine Gleason-spiralverzahnte Kegelradpaarung (Typ Duplex) und eine evolvent-schrägverzahnte Zahnradpaarung erreicht. Um eine gute Belastungsübertragung zu erzielen, werden diese sehr sorgsam hergestellt. Die drei Getriebestufen werden durch eine vorgeschaltete Zahnradstufe (Vorstufe) erreicht, die die gleichen Eigenschaften der zweiten Unterstufungsstufe besitzt.
- Auf PL und PD, die zwei Getriebestufen werden durch zwei evolvent-schrägverzahnte Zahnradpaarungen erreicht. Die drei Getriebestufen werden durch eine vorgeschaltete Zahnradstufe (evolvent-schrägverzahnte Zahnradpaar, die Vorstufe) erreicht.
- Die neuen Getriebe werden in fünf Größen gefertigt: 63 - 80 - 100 - 125 - 160 (Die Größe ist nach dem Achsabstand der Abtriebsstufe definiert; Renard R10). Größe 56 verfügbar nur für OT.
- Die Abtriebsdrehmomente reichen von 100 bis 4350 Nm.
- Die spezifische Zahnbelastung ist nach DIN 3990, UNI 8862, AGMA 2001 B88 und dem Entwurf ISO 6336 festgelegt und dient der Berechnung der Festigkeit in Bezug auf Pitting und Biegefestigkeit im Zahngrund für eine ausgewogene, normal lange Lebensdauer.
- Für eine bessere Axialspieleinstellung und für höhere radiale und axiale Belastungen sind die Wellen im Eingang und beide die Abtriebsstufe und die Vorstufe mit Kegelrollenlagern gelagert.

- Tutti gli ingranaggi sono costruiti in acciaio da cementazione (20 Mn Cr 5 o materiali di equivalente resistenza e temprabilità), e sottoposti a cementazione, tempra e distensione per elevata resistenza alle sollecitazioni statiche e dinamiche e all'usura.
- Gli alberi lenti cavi (soluzione standard) sono costruiti in ghisa sferoidale GS-400.
- Gli alberi lenti pieni, semplici o doppi (soluzione optional) sono costruiti in acciaio da bonifica 42 Cr Mo 4, o materiali di simili proprietà.
- Le carcasse sono costruite in ghisa G 25 secondo UNI 5007, salvo OT56 in alluminio pressofuso.
- Tutti i nuovi riduttori offrono la possibilità di accettare elevati carichi esterni, sia radiali che assiali, comunque orientati: le nostre tabelle forniscono i valori applicabili senza problemi in tutte le condizioni, per casi speciali sarà comunque possibile valutare l'eventuale idoneità con calcolo specifico.
- I rendimenti dinamici sono molto elevati; 0.96 nelle versioni a due stadi e 0.92 nelle versioni a tre stadi.
- E' possibile operare in condizioni di esercizio particolarmente severe garantendo ancora delle durate soddisfacenti; a questo proposito, raccomandiamo di riferirsi scrupolosamente alle indicazioni dei nostri cataloghi tecnici e, nei casi dubbi, riteniamo indispensabile interpellare il nostro servizio tecnico
- **All gears are made in case-hardening steel (20 Mn Cr 5 or materials of equivalent strength and hardenability) and are submitted to case-hardening, quenching and stress-relieving, to give high resistance to static and dynamic stresses and to wear.**
- **Hollow output shafts (standard solution) are manufactured in nodular cast iron GS-400.**
- **The solid output shafts, with single or double extension (optional solution) are made in hardening and tempering steel 42 Cr Mo 4, or materials of similar properties.**
- **Housings are made in cast iron G 25 according to UNI 5007 specification., except OT56 in aluminium pressure die casting.**
- **All the new gearboxes offer a chance to accept high external loads, both radial and axial ones, wherever oriented: our tables give the ratings which can be applied with no troubles in any condition, for special application purposes it is however advisable to evaluate the possible suitability through a specific calculation.**
- **Dynamic efficiencies are very high: .96 in the two stage reduction versions and .92 in the three stage reduction versions.**
- **It is allowed to operate in particularly severe conditions of application, still saving sufficiently satisfactory life times; in connection with this, we recommend to strictly adhere to the indications of our technical catalogue and, if in doubt, to contact our technical dept.**
- *Alle Zahnräder sind aus Einstzstahl gefertigt (20 Mn Cr 5 oder in Bezug auf Härte und Festigkeit ähnliche Werkstoffe).  
Um eine höhere Verschleißfestigkeit sowie höhere statische und dynamische Beanspruchungen zu ermöglichen, werden die Zahnräder einsatzgehärtet und spannungsfrei gegläht.*
- *Die Abtriebshohlwellen werden in der Standardausführung aus Sfäroguß GS.400 gefertigt.*
- *Die auf Wunsch lieferbaren, einseitigen und zweiseitigen Abtriebsvollwellen sind aus Stahl 42 Cr Mo 4 oder aus einem vergleichbaren Werkstoff hergestellt.*
- *Das Gehäuse wird aus G 25 (Guss) nach UNI 5007 gefertigt, mit der Ausnahme von OT56 in Alu-Druckguß.*
- *Alle neue Getriebe haben den Vorteil, daß höhere radiale und axiale Belastungen übertragen werden können.  
Bei den in unseren Tabellen angegebenen Daten handelt sich um Standardangaben für allgemeine Anwendungen in sonderfällen können auf Wunsch projektspezifische Berechnungen durchgeführt werden.*
- *Der dynamische Wirkungsgrad dieser Getriebe ist sehr hoch: 0,96 bei den zweistufigen und 0,92 bei den dreistufigen Getrieben.*
- *Es ist möglich diese neue Getriebe auch bei anspruchsvollen Einsatzfällen zu verwenden und eine befriedigende Lebensdauer zu erzielen.  
Deshalb ist es ratsam, nach den Katalogangaben zu richten und bei auftretenden Unsicherheiten mit unserem technischen Büro Rücksprache zu nehmen.*

## PECULIARITA' COSTRUTTIVE

## CONSTRUCTION PECULIARITIES

## KONSTRUKTIVE EIGENSCHAFTEN

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>• Elevata compattezza ed estrema versatilità di impiego</li> <li>• Modularità costruttiva, che consente agevoli modifiche della posizione di installazione e montaggio</li> <li>• Carcassa principale monoblocco ed ulteriore carcassa per ospitare lo stadio di riduzione addizionale (precoppia), facilmente installabile e collegabile alla carcassa principale, utilizzata anche per le versioni PAM a due stadi</li> <li>• Struttura robusta e resistente, in grado di accettare motori di notevole grandezza e di trasmettere momenti torcenti, sia nominali che di spunto, molto elevati</li> <li>• Impiego di motori normalizzati, calettati direttamente sull'estremità cava dell'albero veloce</li> <li>• Elevata capacità di olio per una lubrificazione ottimale</li> <li>• Elevate capacità di scambio termico, con possibilità di operare anche in condizioni di servizio particolarmente gravose</li> <li>• Valori contenuti di rumorosità e ridotte possibilità di innesco di vibrazioni in virtù del tipo di costruzione e di montaggio modulare, che minimizza il rischio di montaggio mal eseguito e di allineamenti scorretti</li> <li>• Livello di qualità più affidabile e ripetitivo del prodotto assemblato</li> <li>• Ridotte necessità di manutenzione</li> </ul> | <ul style="list-style-type: none"> <li>• <b>High compactness and extreme versatility of usage</b></li> <li>• <b>Modular construction, enabling easy changes in the installation and assembling positions</b></li> <li>• <b>Main monobloc housing and a further housing used for locating the additional reduction stage (primary reduction stage), which can be easily installed and connected to the main housing, used even in the two stages versions equipped with PAM (motor pre-arrangement)</b></li> <li>• <b>Strong and highly resistant structure, suitable to fit even particularly powerful motors and to transmit remarkable torques, both rated and starting ones</b></li> <li>• <b>Use of standardised motors, directly coupled on to the hollow end of the input shaft</b></li> <li>• <b>High oil capacity, in view of a highly efficient lubrication</b></li> <li>• <b>High thermal exchange capacity, with chances to operate even in heavy duty conditions of application.</b></li> <li>• <b>Considerably low sound levels and minimized vibration risks thank to the modular construction which prevents from the risk of wrong assembling and uncorrect alignments</b></li> <li>• <b>More reliable and repeatable level of quality of the assembly</b></li> <li>• <b>Reduced needs of maintenance</b></li> </ul> | <ul style="list-style-type: none"> <li>• <i>Kompakte Einheit und hohe Vielseitigkeit in der Anwendung</i></li> <li>• <i>Einheitliche Bauform, so daß die Montage in allen Einbaulagen problemlos erfolgen kann</i></li> <li>• <i>Das Hauptgehäuse (Monoblock) ist gleichzeitig für den Anbau einer Vorstufe für höhere Untersetzungen vorgesehen, die auch in der Version für Motoranbau (PAM) leicht zu montieren ist</i></li> <li>• <i>Eine robuste Konzeption und Bauweise erlaubt den Anbau größerer Motoren, um höhere Anlauf - bzw. Nennmomente zu übertragen</i></li> <li>• <i>Verwendung von Normmotoren die direkt mit der Eingangshohlwelle gekoppelt werden</i></li> <li>• <i>Ausreichender Innenraum im Gehäuse erlaubt den Einsatz der Getriebe auch in extremen Einsatzfällen</i></li> <li>• <i>Bedingt durch die Modul-Bauweise und Montage werden Geräusche und Vibration sowie Montagefehler vermindert</i></li> <li>• <i>Gleichbleibend hohe Qualität des fertigen Produkts</i></li> <li>• <i>Geringer Bedarf an Wartung</i></li> </ul> |
|--|--|---|

## INSTALLAZIONE

Nell'installazione dei riduttori, occorre attenersi ad alcune regole e norme di comportamento molto rigorose:

1 - Occorre sistemare il motoriduttore in modo che sia consentito un ampio passaggio di aria per la refrigerazione del riduttore e del relativo motore, soprattutto vicino alla ventola di refrigerazione.

2 - Si devono evitare, o almeno ridurre al minimo, le strozzature nei passaggi dell'aria e soprattutto la presenza di fonti di calore site nelle vicinanze del riduttore e tali da poter influenzare sensibilmente la temperatura dell'aria di refrigerazione.

3 - Si deve inoltre evitare che la circolazione dell'aria sia insufficiente, il che potrebbe compromettere il regolare smaltimento del calore.

Si noti infatti che a regime il riduttore produce una potenza termica in costante equilibrio con la potenza termica che può essere smaltita: pertanto, una riduzione della possibilità di smaltimento del calore porta ad un incremento della potenza termica dissipata all'interno del riduttore, e quindi ad un incremento della temperatura del medesimo.

4 - Nell'impiego di motori asincroni trifase, quando il loro avviamento è a vuoto o comunque sotto carichi molto ridotti, è necessario realizzare degli avviamenti molto dolci, correnti di spunto molto contenute, sollecitazioni anch'esse contenute, e se necessario adottare l'avviamento stella/triangolo.

5 - E' essenziale montare il motoriduttore in modo che non subisca vibrazioni in opera.

Infatti le vibrazioni, oltre a causare rumorosità, determinano altri problemi come il possibile progressivo svitamento delle viti di collegamento, ed un incremento dei carichi degli organi interni soggetti a fenomeni di fatica.

6 - Le superfici di fissaggio devono essere pulite e di rugosità sufficiente onde far sì che si abbia un buon coefficiente di attrito. In presenza di carichi esterni, è suggeribile impiegare spine e arresti positivi.

Nelle viti e nei piani di unione è indispensabile utilizzare degli adesivi autobloccanti.

7 - Qualora l'applicazione implichi dei sovraccarichi di lunga durata, frequenti urti e pericoli di bloccaggio, è assolutamente suggeribile installare dei salvamotori, dei limitatori elettronici di coppia, giunti idraulici, giunti di sicurezza, o unità di controllo.

## INSTALLATION

In the installation of gearboxes, please adhere to the following instructions:

1 - The gearbox must be positioned in a way as to allow a free passage of the air for cooling both the gearbox and the relative motor, especially close to the motor cooling fan.

2 - Avoid as much as possible any obstruction to the air flow and especially heat sources very near to the gearbox, which might affect the temperature of the cooling air.

3 - It must be avoided insufficient air recycle, which could hinder a steady heat dissipation.

It should be noted that, in normal running conditions, the gearbox develops a thermal power in a constant balance with the one which can be dissipated. Therefore, if heat dissipation chances sink down, an increase of the thermal power dissipated inside the gearbox occurs, thus a temperature increase of the same.

4 - In the use of asynchronous 3-phase motors, when startings at no load or anyway with very small load occur, there is necessity to accomplish smooth starts. low starting currents and limited stresses, therefore star-delta starting are recommended.

5 - It is essential to mount the gearbox so as not to receive vibrations while working.

In fact vibrations, besides causing noise, give rise to several other potential problems, like progressive connection bolts unscrewing and an increase of fatigue stresses on the internal parts.

6 - Before mounting, clean thoroughly all mating surfaces. They must be sufficiently rough to accomplish a good friction coefficient. Whenever there are outer loads, it is recommended to use pins and positive stops. Self-locking adhesives should be used on the bolts and joining surfaces of the machine frame to prevent gearbox and driven machine to get loose.

7 - If the application involves overloads of long periods of time, heavy shocks or a danger of jamming, it is strongly suggested to fit motor protections, electronic torque limiters, hydraulic couplings, safety couplings, control units or similar devices.

## MONTAGEANLEITUNG

Für einen korrekten Einbau der Getriebe ist es wichtig, daß bestimmte Regeln streng eingehalten werden:

1 - Bei der Aufstellung des Getriebemotors muß gewährleistet sein, daß zwecks Kühlung des Motors und des Getriebes insbesondere in Nähe der Motorlüfterhaube genügend Umluft vorhanden ist.

2 - Sämtliche Umstände, die die Luftzirkulation behindern können, sollten beseitigt oder weitestgehend verringert werden.

Dies gilt ebenfalls für Wärmequellen, die die Kühlung des Getriebes bzw. des Getriebemotors beeinflussen können.

3 - Eine ausreichende Luftzirkulation sollte unbedingt angestrebt werden, da sonst die Wärmeabfuhr behindert werden kann.

Es ist anzumerken, daß das Getriebe im vollen Beharrungszustand eine thermische Leistung erzeugt, die durch eine ausreichende Belüftung abgeführt werden kann. Erfolgt dieser Vorgang nicht oder nur teilweise, so vergrößert sich die aufgebrauchte thermische Leistung im Getriebe und es erfolgt eine unerwünschte Wärmezunahme.

4 - Bei Verwendung von Dreiphasen-Drehstrommotoren, bei denen der Anlauf ohne Belastung oder mit geringer Last erfolgt, ist ein sanfter Anlauf erforderlich. Dieser kann durch eine geringe Stromzufuhr im Anlauf oder durch eine Stern-Dreieck-Schaltung bewirkt werden.

5 - Es ist von großer Bedeutung die Getriebe so zu montieren, daß während des Betriebs keine Vibrationen erzeugt werden.

Vibrationen erzeugen Geräusche und tragen mit der Zeit dazu bei, daß sich die Befestigungs- und Verbindungsschrauben lockern. Zusätzlich erfolgt eine Zunahme der inneren Belastung und somit eine Ermüdung der Maschinenteile.

6 - Die Aufstellungsfläche muß so bearbeitet sein, daß eine Oberflächenhaftung erfolgen kann. Bei extrem hohen Belastungen empfiehlt es sich, Stifte oder Feststellvorrichtungen zu verwenden.

Für Schrauben und Aufstellungsflächen ist die Verwendung von Haftmaterialien unentbehrlich.

7 - Treten in der Anlage über einen längeren Zeitraum höhere Belastungen oder stoßartige Abläufe auf oder besteht eine Blockierungsgefahr, so ist der Einsatz von Motorschutz, elektrischen Drehmomentschutzeinrichtungen, Hydraulik-Kupplungen, Sicherheitskupplungen oder Überwachungsgeräten unbedingt angeraten.

## INSTALLAZIONE

8 - Per servizi con elevato numero di avviamenti a carico, è consigliata la protezione del motore con sonde termiche, onde evitare che si raggiungano pericolose condizioni di sovraccarico del motore stesso, che potrebbero portare gli avvolgimenti a surriscaldare e quindi a fondere.

9 - Riveste una importanza fondamentale agli effetti della buona resa in condizioni operative che venga curato al massimo l'allineamento del riduttore rispetto al motore e alla macchina che deve essere comandata. Tutte le volte in cui ciò è possibile, vale la pena di installare dei giunti elastici. Si consiglia di procedere con molta precisione in tutti quei casi in cui viene montato un supporto esterno, perché eventuali errori di disallineamento di quest'ultimo si ripercuoterebbero in sovraccarichi con conseguente distruzione di un cuscinetto o dell'albero.

10 - All'atto della messa in opera, ci si deve sempre accertare che sia consentito lo scarico dell'olio dal foro di scarico e che il tappo di livello sia accessibile agevolmente alla vista per controlli periodici.

11 - Prima di procedere al montaggio, ci si dovrà curare di pulire bene e lubrificare le superfici a contatto, al fine di evitare pericolo di ossidazioni e di grippaggi.

12 - Gli organi che vengono calettati all'albero cavo del riduttore (in tolleranza H7) devono essere eseguiti con perni lavorati in tolleranza h6. Dove il tipo di applicazione lo richieda, si può prevedere un accoppiamento con leggera interferenza (H7-j6).

13 - Nei limiti del possibile, è consigliato di evitare il montaggio dei pignoni a sbalzo, e di contenere al minimo indispensabile la tensione di cinghie e di catene.

14 - Prima della messa in funzione della macchina, accertarsi che la posizione del livello del lubrificante sia conforme alla posizione del riduttore e che sia stato usato il lubrificante consigliato.

15 - Durante la verniciatura, si consiglia di proteggere il bordo esterno dagli anelli di tenuta, per evitare che la vernice ne essichi la gomma, pregiudicando la tenuta.

16 - Non usare mai il martello per il montaggio e lo smontaggio degli organi calettati, ma utilizzare i fori maschiati previsti in testa agli alberi dei riduttori.

## INSTALLATION

8 - When duty cycle involves high frequency of starts on load, it is recommended to provide a motor protection with thermal gauges, in order to avoid that dangerous overloading conditions of the motor are achieved, which could cause motor windings to overheat and then to melt.

9 - It is essential, in view of a satisfactory gearbox performance, to care that the gearbox is correctly aligned with the motor and the driven machine. Whenever possible, flexible couplings should be interposed. It is needed to proceed carefully whenever an outboard bearing is used, considering that any possible misalignment of this piece would cause tremendously high overloads, with a subsequent failure of a bearing or the shaft.

10 - At the time of gearbox installation, it must be ensured that oil can be removed through the discharge plug and that the level indicator is easily accessible at the human eye for periodical inspections.

11 - Prior to assembly, ensure to clean well and to lubricate mating surfaces, in order to prevent any risk of oxidation and seizure.

12 - Parts which are fitted with the gearbox hollow shaft (tolerance H7) must be carried out with shafts machined with tolerance h6. When required by the application, a fitting with low interference (H7-j6) might be provided.

13 - It is recommended to avoid to fit cantilever mounted pinions, and to hold the pre-loading of belts and chains to the minimum possible value.

14 - Prior to machine start up, make sure that oil level is suitable for the gearbox assembling position and that the recommended oil type has been used.

15 - At the time of painting, it is advisable to protect the outer board of seals, in order to avoid that paint makes rubber dry, thus affecting the sealing effect.

16 - Never use the hammer for mounting/dismantling of the keyed parts, but use the tapped holes provided on the head of the gearbox shafts.

## MONTAGEANLEITUNG

8 - Bei mehreren hohen Anläufen pro Stunde unter Belastung empfiehlt es sich, den Motor mit Thermoschutz zu versehen. Dieser schützt den Motor vor überhöhten Belastungen und hohen Temperaturen. Damit wird ein Durchbrennen der Wicklung verhindert.

9 - Um einen ruhigen Lauf und eine hohe Lebensdauer des Getriebes zu ermöglichen, ist es entscheidend, daß die zu verbindenden Wellen fluchten. In allen Fällen, bei denen es die Möglichkeiten erlauben, lohnt sich die Verwendung elastischer Kupplungen. Werden zusätzliche Lagerböcke oder Stützen benötigt, so müssen diese mit großer Genauigkeit montiert werden. Eventuelle Fluchtungsfehler erzeugen höhere Belastungen und zerstören die Lagerung der Wellen.

10 - Bei der Montage sollte man sich vergewissern, daß das Öl problemlos durch die Ölablaßschraube abgelassen werden kann und das Ölstandsauge für periodische Ölstandsüberprüfungen zugänglich ist.

11 - Vor der Montage müssen alle Berührungsflächen gut gesäubert und durch geeignetes Oxidierungsmittel geschützt werden.

12 - Wellen, die in die Getriebehohlwellen (Toleranz H7) aufgezogen werden, müssen mit der Toleranz h6 gefertigt werden. In Anwendungsfällen, bei denen eine Toleranz mit leichtem Übermaß erforderlich ist, empfehlen wir H7-j6.

13 - Grundsätzlich sollte die freifliegende Montage von Kettenrädern, Zahnradern, Zahnriemenrädern und Trommeln auf die Welle vermieden werden. Auch die Riemen- bzw. die Kettenspannung sollte auf ein Minimum beschränkt werden.

14 - Vor Inbetriebnahme vergewissern Sie sich bitte, daß der Ölstand und die vorgeschriebene Ölart eingehalten werden.

15 - Um eine Verhärtung der Dichtlippen und eventuelle spätere Undichtigkeiten zu vermeiden, empfiehlt es sich die Wellen dichter bei Lackierarbeiten zu schützen.

16 - Für Montage oder Demontage von Antriebselementen auf die Welle sollte niemals ein Hammer zu Hilfe genommen werden. Benützen Sie für diese Tätigkeiten bitte die stirnseitigen Gewinde an der Welle.



## MANUTENZIONE

1 - Controlli da eseguire di routine. In generale, è necessario controllare periodicamente la pulizia delle superfici esterne e dei passaggi di aria per la ventilazione.

Ci si dovrà accertare con buona frequenza temporale che non si verifichino perdite di lubrificante attraverso le guarnizioni di tenuta, le flange di attacco e di collegamento, le viti di fissaggio dei coperchi, i cappellotti ecc..

2 - Costante controllo che il lubrificante sia al livello corretto.

Suggeriamo di controllare abbastanza spesso, quando il riduttore sia fermo e sia sufficientemente raffreddato, che il livello dell'olio si sia mantenuto corretto.

Servirsi a tal fine del tappo di livello, che dovrà pertanto essere mantenuto pulito e trasparente.

Qualora si constati attraverso il tappo stesso che potrebbe essere presente un deposito interno di sporco, conviene accertarsi che non sia penetrato entro alla carcassa del materiale estraneo, quale polvere, sabbia, acqua.

Qualora il livello dell'olio si sia abbassato al di sotto del livello prescritto, si deve provvedere immediatamente al rabbocco. I danni cui il riduttore può andare soggetto qualora operi con scarso lubrificante sono estremamente gravi e rapidi, spesso irreparabili.

Il livello scarso del lubrificante interno compromette le condizioni di scambio termico e, a causa del ridotto potere refrigerante e di asportazione del calore, determina un incremento della temperatura operativa interna, soprattutto nel contatto fra i fianchi dei denti.

3 - Accertamento della temperatura operativa.

Possibilmente, ci si dovrebbe servire di idonei strumenti per accertare la temperatura esterna della carcassa. Siccome in condizioni di impiego ottimali, si vengono comunque a verificare dei salti di temperatura di almeno 15-20°C rispetto all'esterno, le temperature raggiunte normalmente dalla carcassa potrebbero non essere sopportabili dalla pelle umana. Pertanto, ritenere che un riduttore scaldi troppo solo perché non si riesce a tenervi una mano sopra è una affermazione destituita di ogni fondamento (infatti, appena sopra i 50°C non si riesce più a tenere una mano sopra alla carcassa del riduttore).

È importante accertare che la temperatura operativa alla quale il riduttore si stabilizza a regime, a parità di condizioni di impiego, sia più o meno costante: sintomo, questo, che il riduttore sta operando senza che stiano insorgendo fenomeni negativi.

## MAINTENANCE

1 - **Routinary checks.**  
**It is necessary to periodically check that outer surfaces and the passages for the air for cooling are clean. It must be frequently ensured that oil does not leak through seals, connection flanges, attaching hardware of covers, cups etc..**

2 - **Constant checks that oil is at the proper level.**  
**We recommend to check often, when the gearbox is stopped and sufficiently cool that oil has kept at the correct value.**

**For doing this, sight glasses must be used, which therefore must be kept clean and transparent.**  
**Whenever it is ensured, as a result of the visual inspection through the sight glasses, that there is an internal deposit of dirt, it is convenient to verify if foreign material, like dust, sand, water has come into the housing.**  
**If oil level has sunk down, below the prescribed level, it must be provided immediately to fill it up.**

**When operating with poor quantity of oil, the gearbox could suffer serious and fast damages.**

3 - **Measurement of the operating temperature.**  
**Possibly, suitable means should be used for determining the outside temperature of the housing.**  
**Since, in normal conditions of use, an internal temperature rise of at least 15-20°C occurs compared with outside temperature, it would be wrong to state that a gearbox is too hot simply because it cannot be touched with the naked hand.**

**It is important to ensure that the operating temperature reached by the gearbox in a steady stage and at similar conditions of use is nearly the same: this allows to assume that gearbox operates correctly and no potentially degenerative events are going to occur.**

## WARTUNG

1 - *Auszuführende Routinekontrollen. In gewissen Zeitabschnitten ist es grundsätzlich erforderlich Kontrollen am Getriebe durchzuführen. Diese müssen zunächst äußerlich sauber gehalten werden. Auch der Luftdurchgang, der für die Kühlung verantwortlich ist, muß regelmäßig gereinigt werden. Weiterhin sollte man sich vergewissern, daß kein Schmiermittelverlust an Wellendichtring, Abdichtungsdeckel, Befestigungs- bzw. Verbindungsflansch und Deckelschraube aufgetreten ist.*

2 - *Konstante Überprüfungen des Ölstandes. Wir empfehlen diese Kontrollen beim Stillstand und in kaltem Zustand des Getriebes durchzuführen. Das Ölstandsauge muß stets sauber und klar gehalten werden. Werden durch die Ölablaßschraube im Getriebeinnern Ablagerungen festgestellt, so ist unbedingt zu prüfen, ob Wasser, Sand oder Staub in das Getriebe eingedrungen sind. Ist der Ölstand niedriger als vorgeschrieben, so muß er nachgefüllt werden. Die Schäden, die durch fehlende Schmierung auftreten können, treten schnell auf, sind oft schwer und häufig irreparabel. Fehlendes Schmiermittel beeinflusst den Wärmeaustausch im Getriebe und bewirkt eine Wärmezunahme, insbesondere zwischen den Zahnflanken.*

3 - *Feststellung der Betriebstemperatur. Mit geeigneten Meßgeräten kann die Betriebstemperatur am Gehäuse gemessen werden. Im optimalen Betriebszustand kann zwischen innerer und äußerer Temperatur ein Unterschied von 15° - 20°C festgestellt werden, so daß eine Berührung der Gehäuseoberfläche eventuell nicht mehr möglich ist. Deshalb zu behaupten, daß das Getriebe zu heiß wird, weil man die Hand nicht auf das Gehäuse halten kann, wäre falsch und unbegründet. (Bereits bei 50°C reagiert der menschliche Körper empfindlich und empfindet Schmerz.) Es ist sehr wichtig sich zu vergewissern, ob sich die Getriebetemperatur in ihrem Bereich stabilisiert. Dies bedeutet, daß das Getriebe seinen normalen Arbeitsbereich erreicht hat.*

## MANUTENZIONE

### 4 - Pulizia.

La pulizia diretta deve in genere essere eseguita con solventi blandi per non danneggiare la vernice. Ad essa è poi fatta seguire una pronta risciacquatura, eseguita di solito con lo stesso olio utilizzato nel funzionamento effettivo. E' buona norma eseguire questa operazione con olio caldo, eliminando cioè l'eventuale refrigerante dal circuito. Occorre in questo caso tenere sotto particolare controllo l'eventuale formazione di schiuma, che è resa più agevole dalla presenza di impurità. Alla fine dell'operazione, si scarica l'olio possibilmente ancora caldo. L'efficienza della lubrificazione dipende, oltre che dalle caratteristiche dell'olio, anche dalla regolarità del suo arrivo ai punti stabiliti.

## STOCCAGGIO

Generalmente, se lo stoccaggio dei riduttori avrà una durata relativamente breve (fino a 6 mesi massimo), è sufficiente scegliere un ambiente chiuso, pulito, secco ed esente da vibrazioni eccessive, per non danneggiare i cuscinetti; inoltre, esso dovrà essere a temperatura normale, inclusa fra 0°C e 40°C.

In caso invece di lungo stoccaggio, i riduttori dovranno essere mantenuti in ambienti esenti da umidità o da polvere e, qualora non sia totalmente possibile provvedere un ambiente di caratteristiche ottimali, si deve far uso di sostanze protettive per gli alberi, i giunti ed il flangiame in generale.

Nel caso i riduttori debbano rimanere a lungo inattivi in ambiente con elevata percentuale di umidità, è necessario riempirli totalmente di olio; naturalmente il livello corretto dovrà essere ripristinato quando i gruppi saranno messi in funzione.

## LIVELLI SONORI

I riduttori OT, PL e PD si segnalano anche per i livelli di rumorosità piuttosto contenuta, in virtù della costruzione compatta, dell'elevata precisione costruttiva e dell'ottimale progettazione e costruzione degli ingranaggi.

Si forniscono qui sotto i valori di rumorosità media a livello indicativo. Detti valori si riferiscono ad una misura ad 1 metro di distanza, in campo libero, su un piano riflettente.

$n_1 = 1400$

$\text{min}^{-1}$

	Pressione sonora Sound pressure Druckschallpegel dB(A)	Potenza sonora Sound power Leistungsschallpegel dB(A)
63	67	76
80	70	78
100	72	81
125	74	83
160	77	88
63/3	70	79
80/3	72	81
100/3	75	85
125/3	77	87
160/3	79	91

## MAINTENANCE

### 4 - Cleaning.

**Direct cleaning must be usually carried out with soft solvents in order not to damage painting.**

**It must be followed by a prompt rinsing, effected with the same oil of the normal use.**

**It is preferable to carry out this operation with hot oil, removing the coolant of the circuit, if there is any.**

**It must be accurately prevented the potential foam formation, made easier by the presence of dirt.**

**At the end of the operation, oil is discharged possibly still hot.**

**The efficiency of the lubrication, in addition to oil properties, depends on the regularity by which oil reaches the stated points.**

## STOCKING

**Generally, if stocking of gearboxes lasts a relatively short time (up to 6 months max.), it is sufficient to choose a closed, clean and dry environment, free of excessive vibrations, in order not to damage bearings.**

**Moreover, said environment must be at a normal temperature, included between 0°C and 40°C.**

**On the contrary, in case of a long time of stocking, gearboxes must be kept in an environment free of moisture and dust, and if it is not possible to provide an environment with excellent features, it must be provided the use of suitable protective means for shafts, couplings and flanges in general, in order to prevent rust and corrosion.**

**if gearboxes must be kept inactive for a long time in an environment with high humidity, it is necessary to fill them entirely with oil: of course, the correct level of lubricant will have to be restored when groups are started up.**

## SOUND LEVEL

**The performance of OT, PL and PD gearboxes in terms of noise reduction is excellent due to the compact building design, the high constructive precision and the optimum gear machining.**

**Here below are given the average sound level data, taken at one meter distance in a free field on a reflecting surface.**

## WARTUNG

### 4 - Reinigung.

*Dieser Vorgang wird vorzugsweise bei Betriebstemperatur durchgeführt. Das warme Öl wird abgelassen und anschließend das Innere des Getriebes mit einem nicht aggressiven Lösungsmittel abgewaschen, um den Lack nicht zu beschädigen. Danach spült man das Getriebe mit dem vorgesehenen Schmieröl durch.*

*Verunreinigungen im Schmiermittel bzw. im Getriebe können zur Verseifung und Schaumbildung führen.*

*Am Ende des Reinigungsvorgangs wird das zur Spülung verwendete Öl möglichst im warmen Zustand abgelassen und das Getriebe mit neuem Öl befüllt.*

*Eine gute Schmierung hängt sowohl von der Ölcharakteristik als auch von der Verteilung an den zu schmierenden Teilen ab.*

## LAGERUNG

*Erfolgt die Lagerung der Getriebe nur für einen kurzen Zeitraum von maximal 6 Monaten, so reicht es, wenn die Getriebe in einer trockenen, sauberen, abgeschlossenen, vibrationsfreien und von aggressiven chemischen Dämpfen freien Umgebung bei einer Temperatur zwischen 0°C und 40°C abgestellt werden. Bei einer langfristigen Lagerung hingegen müssen die Getriebe in staubfreien Räumen ohne jegliche Feuchtigkeit gelagert werden.*

*Wenn diese optimalen Voraussetzungen nicht eingehalten werden können, müssen Wellen, Kupplungen und allgemeine Flansche durch Oberflächenschutzmittel geschützt werden.*

*Bei längerer Lagerung der Getriebe in feuchten Räumen empfiehlt es sich, zusätzlich das Getriebe voll mit Öl zu befüllen.*

*Selbstverständlich muß vor der Inbetriebnahme der vorgeschriebene Ölstand wiederhergestellt werden.*

## GERÄUSCHPEGEL

*Die OT, PL und PD Getriebe zeichnen sich auch in Bezug auf den niedrigen Geräuschpegel durch ihre kompakte Bauform, hohe Fertigungspräzision und optimale Verzahnungsgeometrie aus. Nachfolgend sind die durchschnittlichen Geräuschwerte angegeben, die von Getriebe zu Getriebe geringfügig abweichen können.*

*Die Angaben sind bei einem Abstand von einem Meter, in einem freien Raum, auf einer reflektierenden Ebene ermittelt worden.*

## LUBRIFICAZIONE

Tutti i riduttori OT, PL e PD provvisti di precoppia (OT../3, PL../3 e PD../3) vengono da noi forniti con la precoppia già prelubrificata e quindi non richiedono alcun riempimento da parte dei clienti. Viene utilizzato l'olio sintetico tipi Shell Tivela SC 320. Gli OT, PL e PD a due stadi di riduzione, così come la carcassa principale nei riduttori con precoppia vengono invece forniti privi di olio, e la relativa lubrificazione è a cura dei clienti. Si raccomanda di attenersi scrupolosamente alla tabella dei lubrificanti qui sotto indicati:

## LUBRICATION

All OT, PL and PD gearboxes provided with the primary reduction (OT../3, PL../3 and PD../3) are supplied with the primary reduction already pre-lubricated in-house, and therefore do not require any filling with oil by the customer. It is used the synthetic oil Shell Tivela SC 320. On the contrary, OT, PL and PD gearboxes with 2 stages of reduction, as well as the main housing in the versions with primary reduction are supplied without oil, and the relative lubrication is at customer's account. We recommend to strictly adhere to the table of lubricants mentioned here below:

## SCHMIERUNG

Bei allen Getrieben der Type OT, PL und PD mit Vorstufe (OT../3, PL../3 und PD../3), wird die Vorstufe bereits vom Hersteller aus mit Schmiermittel geliefert, so daß von Kundenseite her kein zusätzliches Schmiermittel in die Vorstufe einzufüllen ist. Hierbei wird ein Synthetiköl von Shell der Type Tivela SC 320 verwendet. Die zweistufigen OT, PL und PD Getriebe sowie die Hauptgehäuse der Vorstufenge triebe werden alle ohne jegliches Schmiermittel geliefert. Es ist somit Aufgabe des Kunden, diese vor der Inbetriebnahme mit Öl zu füllen. Grundsätzlich empfiehlt es sich die nachfolgenden Schmiermittel zu verwenden:

MARCA / MAKE / HERSTELLER	TIPO DI OLIO / TYPE OF OIL / ÖLSORTE
<ul style="list-style-type: none"> <li>• IP</li> <li>• SHELL</li> <li>• KLÜBER</li> <li>• FINA</li> <li>• ESSO</li> </ul>	<ul style="list-style-type: none"> <li>TELIUM OIL VSF</li> <li>TIVELA OIL SC 320</li> <li>SYNTHESO D 220 EP</li> <li>GIRAN S 320</li> <li>GLYCOLUBE RANGE 220</li> </ul>

TEMPERATURA AMBIENTE / AMBIENT TEMPERATURE / UMGEBUNGSTEMPERATUR -30 °C + 50 °C  
 TEMPERATURA OPERATIVA / OPERATING TEMPERATURE / BETRIEBSTEMPERATUR -40 °C + 130 °C

Gli anelli di tenuta, costruiti in mescole nitriliche, non consentono però di operare soddisfacentemente a temperature superiori a +85°C. Nell'ipotesi che la temperatura all'interno del riduttore possa raggiungere livelli più elevati di +85°C per tempi significativi, è necessario richiederci l'esecuzione speciale con anelli di tenuta in mescole fluorurate (viton). E' fondamentale accertarsi della quantità di lubrificante richiesta per la specifica posizione di montaggio che è prevista, dal momento che la quantità di olio necessaria può differire in funzione della posizione di utilizzo. A riempimento avvenuto, accertarsi di porre i tappi di riempimento, livello e scarico olio nelle corrette collocazioni per la posizione di montaggio prescelta. Precisarci sempre la posizione di montaggio se si desidera che i tappi vengano già posti nelle giuste collocazioni da noi.

NOTA BENE: Gli oli sintetici suggeriti sopra garantiscono una durata a vita senza necessità di alcuna manutenzione.

E' tuttavia opportuno controllare, attraverso il tappo di livello trasparente, collocato nella giusta posizione, se il livello dell'olio si mantiene corretto e non si verificano anomalie, come potrebbe essere determinato da sia pure molto improbabili perdite di olio attraverso gli anelli di tenuta. In caso di occasionali necessità di ripristino del giusto livello, utilizzare lo stesso olio già presente nel riduttore.

Le posizioni di montaggio degli OT, PL e PD sono importanti soltanto per individuare la corretta quantità di lubrificante da introdurre e per la corretta posizione dei tappi.

Gli OT, PL e PD dispongono infatti come esecuzione standard di anelli nylos per i cuscinetti conici, e pertanto non ci si deve preoccupare della posizione di montaggio dal punto di vista della corretta lubrificazione dei cuscinetti.

Seals, being made in nitrile rubber compounds, do not allow to operate satisfactorily at temperatures over +85°C. In the assumption temperature inside the gearbox achieves higher values than +85°C for a significant period of time, it is necessary to require the special execution provided with special seals in fluorurated compounds (viton). It is essential to make sure that the oil quantity is the correct one for the expected assembling position, considering that oil quantity might differ for the different positions of use. After oil filling, make sure that filling, level and discharge plugs are positioned correctly in view of the assembling position. Please let us know the assembly position, if it is wished that plugs are placed in the correct location at the time of delivery. N.B.: Synthetic oils suggested here above assure that the expected lifetime is reached without any need of maintenance.

It is however convenient to check through the proper transparent oil level plug that the oil level keeps at the correct value and no failures have occurred, as it could happen in case of unlikely leaks. In case of occasional needs to restore the correct level, the same type of oil must be used. OT, PL and PD assembling positions are important not only for stating the correct oil quantity, but even for finding the correct plug positions. The range of OT, PL and PD gearboxes has as a standard execution nylos rings for the taper roller bearings, and therefore there is no need to take care of the assembling position from the point of view of the correct lubrication of bearings.

Die Wellendichtringe aus Nitrilmischungen (Standard) vertragen eine Betriebstemperatur von maximal 85°C. Bei höheren Betriebstemperaturen ab 85°C über einen längeren Zeitraum hinweg, sollten spezielle Wellendichtringe aus Fluoridmischungen (Viton) eingesetzt werden. Da die Ölmenge von der Einbaulage abhängt, muß diese vorher festgelegt werden, um die erforderliche Ölmenge einzufüllen. Nach Einfüllung des Schmiermittels ist zu prüfen, ob die Ölschrauben (Ölstands-, Ölablaß- und Ölfüllschrauben) an den vorgeschriebenen Stellen sitzen. Ist die Einbaulage bei der Bestellung bekannt, so werden die Ölschrauben direkt vom Hersteller positioniert.

Bemerkung: Die oben empfohlenen Synthetikölsorten gewähren eine Lebensdauerschmierung, also eine nahezu wartungsfreie Schmierung. Es ist jedoch ratsam, von Zeit zu Zeit den Ölstand durch das Ölstandsauge zu kontrollieren. So können Anomalien, die z.B. durch Wellendichtringe auftreten können, verhindert werden. Im Falle daß Öl nachgefüllt werden muß, ist die gleiche Ölart zu verwenden. Bei den Getrieben OT, PL und PD ist die Einbaulage wichtig, damit die richtige Ölmenge eingefüllt und die Ölschrauben korrekt angebracht werden. Da für die Getriebe OT, PL und PD eine universelle Einbaulage vorgesehen ist, sind in der Standardausführung Kegelrollenlager mit Nilosringen montiert, so daß die Kegelrollenlager jederzeit korrekt geschmiert werden.

QUANTITA' DI LUBRIFICANTE  
OT e OT../3

LUBRICANT QUANTITY  
OT and OT../3

ÖLMENGE  
OT und OT../3

	Posiz. di mont. Mounting position Einbaulage	OT.. - OT../3					
		Carcassa principale / Main housing / Hauptgehäuse					
		56	63	80	100	125	160
Olio (litri) Oil (liters) Öl (Liter)	B3 - B7	0.8	0.9	1.4	2.6	5.6	9.5
	B6	0.8	0.9	1.4	2.6	5.6	9.5
	B8	0.9	1.1	1.6	3.2	6.5	11.0
	V5 - V6	0.9	1	1.5	3.0	5.8	10.5

OT../3					
56	63	80	100	125	160
0.2	0.3	0.5	0.7	0.9	1.5

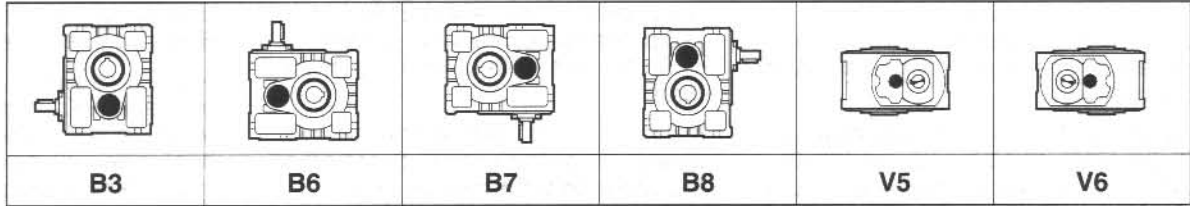
Precoppia per OT../3 già lubrificata dalla SITI  
Primary reduction OT../3 prelubricated by SITI  
Vorstufe OT../3 geschmiert bei SITI

POSIZIONI DI MONTAGGIO

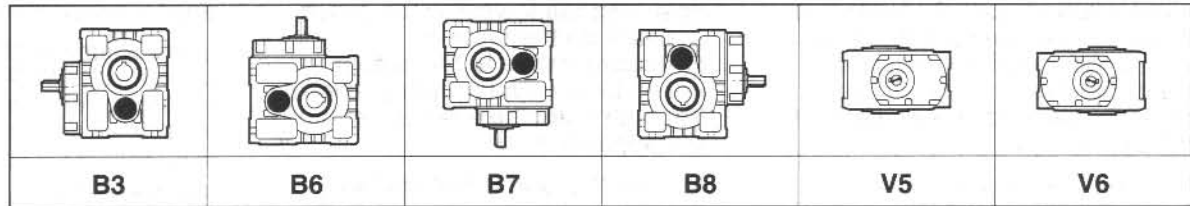
MOUNTING POSITIONS

EINBAULAGE

OT..



OT../3



QUANTITA' DI LUBRIFICANTE  
PL e PL../3

LUBRICANT QUANTITY  
PL and PL../3

ÖLMENGE  
PL und PL../3

	Posiz. di mont. Mounting position Einbaulage	PL..				
		Carcassa principale / Main housing / Hauptgehäuse				
		63	80	100	125	160
Olio (litri) Oil (liters) Öl (Liter)	B3 - B8	0.9	1.5	2.8	5.6	10
	B6	1.4	2.1	4.0	7.6	12.5
	B7	1.1	1.8	3.6	7.0	11.7
	V5 - V6	1.2	1.9	3.8	7.2	12.0

PL../3				
63	80	100	125	160
0.2	0.3	0.4	0.6	0.8

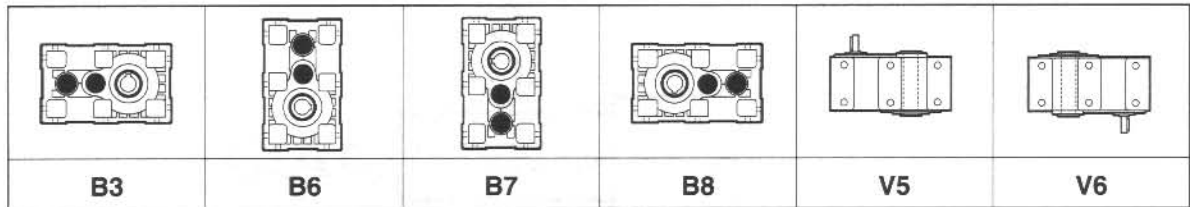
Precoppia su PL../3 già lubrificata dalla SITI  
Primary reduction PL../3 prelubricated by SITI  
Vorstufe PL../3 geschmiert bei SITI

POSIZIONI DI MONTAGGIO

MOUNTING POSITIONS

EINBAULAGE

PL  
PL../3



QUANTITA' DI LUBRIFICANTE  
PD e PD../3

LUBRICANT QUANTITY  
PD and PD../3

ÖLMENGE  
PD und PD../3

	Posiz. di mont. Mounting position Einbaulage	PD..				
		Carcassa principale / Main housing / Hauptgehäuse				
		63	80	100	125	160
Olio (litri) Oil (liters) Öl (Liter)	B3	1.1	1.6	2.8	5.5	10
	B6 - B7	0.8	1.4	2.6	5.3	9.8
	B8	1.0	1.7	3.5	6.6	11.2
	V5 - V6	1.1	1.8	3.6	6.8	11.6

PD../3				
63	80	100	125	160
0.2	0.3	0.4	0.6	0.8

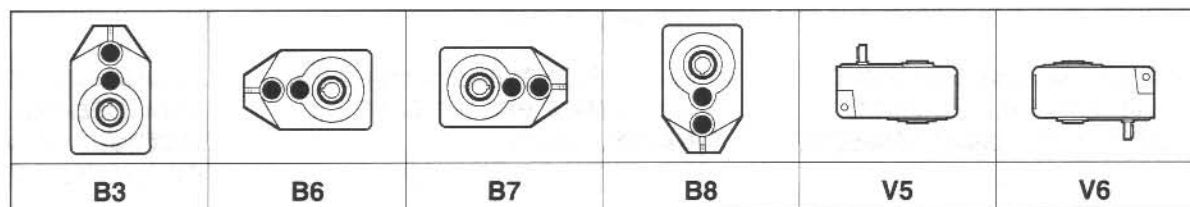
Precoppia su PD../3 già lubrificata dalla SITI  
Primary reduction PD../3 prelubricated by SITI  
Vorstufe PD../3 geschmiert bei SITI

POSIZIONI DI MONTAGGIO

MOUNTING POSITIONS

EINBAULAGE

PD  
PD../3



## CARICHI RADIALI E CARICHI ASSIALI

## RADIAL AND AXIAL LOADS

## ZULÄSSIGE RADIALE UND AXIALE BELASTUNGEN

I massimi carichi radiali ammissibili sull'albero lento sono sempre riferiti alla posizione di mezzeria dell'albero lento standard SITI.

Siccome il valore scalare del massimo carico radiale ammissibile varia in funzione del suo senso di applicazione, ovvero dell'angolo che il carico forma rispetto al riduttore, forniamo nelle apposite tabelle i carichi radiali massimi che possono essere ammessi per diverse direzioni del carico stesso.

Qualora si tratti di un carico esterno di direzione variabile, oppure l'esatta direzione del medesimo sia ignota, o di difficile determinazione, dovrà sempre essere assunto il valore più basso che appare sulla tabella in corrispondenza della velocità in uscita dal riduttore che più si avvicina, verso l'alto, a quella effettiva dell'applicazione.

Qualora il carico non sia applicato esattamente nel punto di mezzo dell'albero lento standard SITI, si prega di interpellarci per una valutazione specifica del caso, restando inteso che carichi più elevati saranno ammessi se il carico è più vicino allo spallamento che non la mezzeria dell'albero, e viceversa saranno consentiti solo carichi più bassi se più lontano.

**The max. radial loads permissible on the output shaft are always referred to the middle position of the standard SITI output shaft.**

**Since the actual value of the max. radial permissible load changes in function of its vectorial angle, i.e. the slope angle that the outer load has with respect to the gearbox, we supply in the tables the max. radial loads permissible for the different possible directions of the load.**

**If it is an outer load of changeable direction, or the actual direction of the same is unknown or of a difficult determination, it has to be assumed the lowest value which appears on the table in correspondance to the output speed better approaching, towards the high side, the effective one of the application.**

**in case the load is not applied exactly in the middle point of the SITI standard output shaft, please apply to our engineering for a deep evaluation of the specific case involved.**

**It is understood that higher loads will be permitted if the load is applied closer to the shoulder, and smaller loads if it is applied farther away from it.**

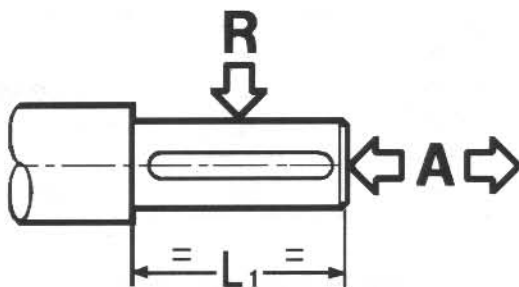
*Die maximal zulässigen Radialbelastungen auf der Abtriebswelle beziehen sich auf die Mitte des SITI - Standard - Wellenzapfens.*

*Da die maximal zulässigen Angaben je nach Kraftangriffswinkel und Drehrichtung variieren, sind in der Tabelle die zulässigen Kräfte angegeben, die für jede Richtung der Belastung selbst zugelassen sind.*

*Handelt es sich um eine Belastung, bei der die Krafrichtung wechselt, nicht bekannt oder schwer zu bestimmen ist, so muß der niedrigste in der Tabelle aufgeführte Wert in Abhängigkeit zu den Drehzahlen angenommen werden.*

*Ist die Angriffskraft nicht genau auf die Mitte des SITI- Standard-Wellenzapfens gerichtet, so empfiehlt es sich mit unserem Technischen Büro Kontakt aufzunehmen.*

*Es steht jedoch außer Frage, daß hohe Belastungen zugelassen werden können, wenn sich die Angriffskraft in der Nähe des Wellenbundes befindet. Umgekehrt werden die zulässigen Belastungen kleiner, je weiter sich der Kraftangriffspunkt vom Wellenbund bzw. von der Wellenmitte entfernt befindet.*



I valori dei carichi radiali per ogni grandezza sono riportati nelle tabelle a fianco delle prestazioni e delle dimensioni di ogni grandezza.

**The values of the radial load for each size are given in the table placed next to the performance data and dimensions of each size.**

*Die Werte der zulässigen radialen Belastungen für jede Größe sind in der Tabelle beinahe der Leistungsangaben und Abmessungen angegeben.*

### NOTA BENE:

Vale sempre la relazione:

**CARICO ASSIALE MASSIMO AMMESSO = 0.2 x CARICO RADIALE MASSIMO AMMESSO.**

### N.B.:

It must be always applied the following relation:

**MAX. PERMISSIBLE AXIAL LOAD = 0.2 x MAX. PERMISSIBLE RADIAL LOAD.**

### ACHTUNG:

*Es gilt immer folgendes Verhältnis:*

**ZULÄSSIGE MAXIMALE AXIALBELASTUNG = 0.2 x MAXIMAL ZULÄSSIGE RADIALBELASTUNG.**

**PRINCIPALI CONCETTI MECCANICI**  
**MAIN MECHANICAL CONCEPTS**  
**WICHTIGSTE MECHANISCHE BEGRIFFE**

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<b>n<sub>1</sub></b> min <sup>-1</sup>	<b>n<sub>2</sub></b> min <sup>-1</sup>	VELOCITA' ANGOLARI <b>ANGULAR SPEED</b> DREHZAHL	14
<b>i</b>		RAPPORTO DI RIDUZIONE <b>REDUCTION RATIO</b> ÜBERSETZUNGSVERHÄLTNIS	14
<b>M<sub>2</sub></b> Nm		MOMENTO TORCENTE <b>TORQUE</b> ABTRIEBSMOMENT	15
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## POTENZA

Ogni volta che si compie un lavoro (accelerare masse, vincere attriti, effettuare sollevamenti, ecc.) si ha sempre un assorbimento di potenza.

In alcuni casi è molto semplice determinare la potenza approssimativa mediante il calcolo, in altre applicazioni (coclee, agitatori, macchine automatiche, ecc.) è più difficile risalire a questo valore, pertanto è consigliabile riferirsi ad applicazioni similari già in funzione ed effettuare dei rilievi con appositi strumenti.

La potenza assorbita deve preferibilmente essere uguale o inferiore a quella ammessa dal riduttore scelto.

$$kW \text{ (assorbita)} \times sf < kW_1$$

Nel caso di impiego di riduttori combinati, caratterizzati da bassissime velocità di rotazione, la scelta dovrà essere effettuata in base al momento torcente richiesto e non alla potenza in quanto quest'ultima risulterà sicuramente esuberante a causa dell'unificazione dei motori elettrici.

E' necessario evidenziare inoltre che l'impiego di potenze superiori a quelle richieste oltre a comportare un onere aggiuntivo sotto il profilo energetico, sottopongono gli organi collegati a sollecitazioni non preventivate che possono pregiudicare l'integrità del sistema di trasmissione.

## VELOCITA' ANGOLARI

$n_1$  rappresenta la velocità determinata dal tipo del motore e  $n_2$  è quella richiesta o disponibile all'uscita del riduttore.

Questi parametri possono essere fissi nel caso si riferiscono a motori elettrici a c.c. Normalmente la massima velocità ammissibile all'ingresso dei riduttori è 3000 rpm.

Particolari esigenze potranno essere valutate con il ns. servizio tecnico.

Dove non indicato, la velocità angolare è da considerare come segue:

Per i motori a:

- 2- poli  $n_1 = 2800 \text{ min}^{-1}$
- 4- poli  $n_1 = 1400 \text{ min}^{-1}$
- 6- poli  $n_1 = 900 \text{ min}^{-1}$
- 8- poli  $n_1 = 700 \text{ min}^{-1}$

## RAPPORTO DI RIDUZIONE

I valori di catalogo rappresentano i rapporti di trasmissione (in alcuni casi approssimati) fra gli ingranaggi dei riduttori.

Si può anche calcolare conoscendo  $n_1$  e  $n_2$  con la relazione:

$$i = n_1/n_2$$

I rapporti sono approssimati alla seconda cifra decimale.

## POWER

**Power is absorbed everytime a machine is working (lifting loads, overcoming friction, accelerating masses). In many cases it is very easy to determine the approximate power required by calculation.**

**In other applications (for example agitators and screw feeders) it is much more difficult to determine this figure. It is advisable in these cases to refer to similar applications already in use and carry out tests with appropriate instrumentation.**

**The power absorbed should be equal to or lower than the gearbox capacity allowed.**

$$kW \text{ (absorbed)} \times sf < kW_1$$

**On low output speed applications where combined units are used, the selection of the drive should be based on the torque required and not on the basis of power, as the latter will be exhorbitant as a result of electric motor unification.**

**It should be pointed out that the fact of applying a larger capacity than required on a gearbox, will not only lead to a waste of energy, but also will subject the unit to excessive stresses which can seriously compromise the transmission system.**

## ANGULAR SPEEDS

**$n_1$  represent the input speed and  $n_2$  the output speed. These parameters can be fixed, when using single or double polarity electric motors and variable when dc electric motors or variators are used.**

**Normally the maximum input speed allowed on a gearbox is 3000 rpm. Particular requirements can be evaluated by our technical department. When not indicated, the angular speed should be considered as follows:**

- 2- pole motors  $n_1 = 2800 \text{ min}^{-1}$
- 4- pole motors  $n_1 = 1400 \text{ min}^{-1}$
- 6- pole motors  $n_1 = 900 \text{ min}^{-1}$
- 8- pole motors  $n_1 = 700 \text{ min}^{-1}$

## REDUCTION RATIO

**Catalogue figures refer to the transmission ratios in some cases approximate between the gears.**

**The ratio can be calculated if  $n_1$  and  $n_2$  are known using this simple equation:**

$$i = n_1/n_2$$

**Gear ratios are approximate to the second decimal figure.**

## LEISTUNG

*Bei der Verrichtung von Arbeit (Massen beschleunigen, Reibung überwinden, Lasten heben usw.), wird immer eine bestimmte Leistung benötigt.*

*In verschiedenen Fällen wird die Leistung durch einfache Rechnungen festgelegt. Bei anderen Anwendungen (Förderschnecken, Rührwerke und weitere automatische Maschinen) ist es schwieriger, die Leistung auszurechnen, wobei es sich empfiehlt, auf vorhandene Antriebe zurückzugreifen und daraus Schlüsse zu ziehen.*

$$kW \text{ (aufgenommen)} \times sf < kW_1$$

*Im Falle einer Auslegung von zusammengesetzten Getrieben, die sich durch niedrige Abtriebsdrehzahlen auszeichnen, muß die Auslegung anhand des vorlangten Abtriebsmomentes erfolgen und nicht an der Eingangsleistung gemessen werden. Bedingt durch die Norm der Elektromotoren kann diese unter Umständen sehr hoch liegen. Es ist wichtig zu erwähnen, daß bei Überdimensionierung der Eingangsleistung aus der Beeinflussung des Lastverlaufs durch unvorhergesehene Belastung an die anzutreibenden Maschinenteile die Funktionstüchtigkeit beeinträchtigt werden kann.*

## DREHZAHL

*$n_1$  gibt in den meisten Fällen die Drehzahl des Motors an, während  $n_2$  allgemein die Drehzahl im Ausgang des Getriebes darstellt.*

*Diese Angaben können als feste Drehzahl bezeichnet werden, bei Verwendung von Dreiphasen-Elektromotoren, sowie bei Verwendung von Verstelltriebemotoren oder Gleichstrommotoren.*

*im allgemeinen beträgt die maximale Eingangs.drehzahl bei Getrieben  $3000 \text{ min}^{-1}$ . In Sonderfällen können diese mit unseren technischen Büros ausgewertet werden.*

*Ist die Eingangsdrehzahl nicht angegeben, so ist sie aus nachfolgender Aufstellung ersichtlich:*

- Bei 2- poligen Motoren  $n_1 = 2800 \text{ min}^{-1}$
- 4- poligen Motoren  $n_1 = 1400 \text{ min}^{-1}$
- 6- poligen Motoren  $n_1 = 900 \text{ min}^{-1}$
- 8- poligen Motoren  $n_1 = 700 \text{ min}^{-1}$

## ÜBERSETZUNGSVERHÄLTNIS

*Die Katalogangaben stellen das Übersetzungsverhältnis zwischen Räderpaaren des Getriebes dar, es ist jedoch in verschiedenen Fällen nicht genau angegeben.*

*Das Übersetzungsverhältnis kann man berechnen, wenn man  $n_1$  und  $n_2$  kennt und in folgende Beziehung stellt:*

$$i = n_1/n_2$$

*Das Übersetzungsverhältnis ist auf die zweite Dezimalstelle nach dem Komma gerundet.*

## MOMENTO TORCENTE

Il momento torcente disponibile all'uscita di una motorizzazione è dato dalla seguente relazione:

$$M_2 \text{ (Nm)} = \frac{9550 \times kW_1}{n_2} \times R_D$$

$$M_2 \text{ (Nm)} = \frac{7026 \times HP_1}{n_2} \times R_D$$

e deve essere uguale o superiore a quello richiesto da una determinata applicazione.

Considerato che dal riduttore esce sempre un moto rotativo, la coppia  $M$  richiesta da una determinata applicazione si può considerare come il prodotto di una forza  $F$  per un raggio  $r$  (di un pignone, di una ruota, di un tamburo, ecc.) per cui semplificando si ha:

$$M \text{ (Nm)} = F \times r \times sf \leq M_2$$

e deve essere uguale o inferiore a  $M_2$ . Molta attenzione deve essere posta nella determinazione del valore di  $F$  in quanto esso deve tenere in considerazione eventuali attriti di primo distacco, accelerazioni e decelerazioni o punte di carico improvvise.

Ricordiamo inoltre che il momento torcente  $M_2$  riportato nella tabelle dei dati tecnici dei riduttori, è calcolato in base a un fattore di servizio  $sf=1$ .

Sono ammessi sovraccarichi istantanei con punte del 100% oltre il valore nominale, ovviamente per un numero limitato di inserzioni.

## RENDIMENTO DINAMICO ( $R_D$ )

Il rendimento dinamico assunto nelle tabelle delle prestazioni deve essere inteso come un valore medio garantito dal riduttore dopo rodaggio.

Siccome le cause che concorrono alla riduzione di questo valore sono l'attrito radente e volvente degli ingranaggi, l'attrito volvente di cuscinetti, l'attrito radente dei labbri di tenuta e lo sbattimento dell'olio, si raccomanda di utilizzare sempre i lubrificanti consigliati.

## TORQUE

The output torque of a drive is given by the following formula:

$$M_2 \text{ (Nm)} = \frac{9550 \times kW_1}{n_2} \times R_D$$

or

$$M_2 \text{ (Nm)} = \frac{7026 \times HP_1}{n_2} \times R_D$$

and should be equal to or higher than the application requirement. On the basis that a gearbox produces a rotational drive on output the torque required can be considered as the result of a force  $F$  on a radius  $r$  (of a gear, wheel, drum, sprocket). As a result the following can be assumed:

$$M \text{ (Nm)} = F \times r \times sf \leq M_2$$

and should be equal to or lower than  $M_2$ .

Much attention should be paid to how  $F$  is determined as possible friction and sudden accelerating or decelerating loads can affect this force.

Please note that the torque indicated in the technical data is based on service factor 1.

Instant overloads of 100% of the nominal value are allowed for a low number of insertions.

## DYNAMICAL EFFICIENCY ( $R_D$ )

The dynamical efficiency assumed in the performance table must be intended as the average value ensured after completion of running in, since the causes concurring to the reduction of this value are:

sliding and rolling friction of gears, rolling friction on bearings and sliding friction of sealing lips, as well as the shaking of the oil, it is strictly recommended to use the lubricants suggested.

## ABTRIEBSMOMENT

Das zur Verfügung stehende Abtriebsmoment ergibt sich aus folgendem Zusammenhang:

$$M_2 \text{ (Nm)} = \frac{9550 \times kW_1}{n_2} \times R_D$$

$$M_2 \text{ (Nm)} = \frac{7026 \times HP_1}{n_2} \times R_D$$

und muß gleich oder höher sein, als das verlangte Drehmoment.

Wenn man berücksichtigt, daß aus Getrieben immer eine Drehbewegung erfolgt, kann das verlangte Drehmoment  $M$  bezeichnet werden als das Produkt aus Kraft  $F$  x Radius  $r$  (Ritzel, Stirnrad, Trommel usw.), wobei vereinfacht dargestellt gilt:

$$M \text{ (Nm)} = F \times r \times sf \leq M_2$$

und muß gleich oder niedriger sein, als das Abtriebsmoment  $M_2$ .

Weiterhin muß Aufmerksamkeit auf die Angabe  $F$  gelenkt werden, da unvorhergesehenes Anfahrmoment, Beschleunigungen, Bremsung oder Spitzenlasten auftreten können.

Das von uns in der Tabelle angegebene Abtriebsdrehmoment  $M_2$  ist mit dem Betriebsfaktor  $sf = 1$  berechnet worden. Hierbei sind bei begrenzter Einschaltdauer kurzzeitig Spitzenlasten von 100% auf das Nennmoment übertragbar.

## DYNAMISCHER WIRKUNGSGRAD ( $R_D$ )

Der dynamischer Wirkungsgrad, der in unseren Tabellen angegeben ist, muß als ein Mittelwert des Getriebes nach Einlaufen berücksichtigt sein.

Da die Ursachen der Verminderung des Wirkungsgrads sind: Gleit- und Wälz-Reibung der Zahnflanken, Wälz-Reibung der Kegellager, Gleit-Reibung der Dichtringe und Schmiermittelserschütterung, ist es empfohlen eine richtige Wahl des Schmiermittels durchzuführen.



## FATTORE DI SERVIZIO

Per tenere conto della variabilità dei carichi e per garantire una certa affidabilità e durata dei riduttori, si ricorre all'adozione di un adeguato coefficiente che consente di scegliere la motorizzazione con parametri che riconducono con buona approssimazione alle reali condizioni di esercizio. La tabella seguente riporta il valore indicativo del fattore di servizio riferito alle applicazioni più diffuse. Per quelle che non sono indicate si può effettuare la ricerca in base al tipo di carico, al numero di ore di funzionamento e al numero di avviamenti/ora.

## SERVICE FACTOR

To enable load variations to be considered, and to guarantee gearbox reliability and duration, a coefficient should be adopted that takes into account real operating conditions when a gearbox is selected. The following table indicates approximate service factors for numerous types of applications. For those not shown the service factor can be determined by taking into account the type of load, the number of operating hours and the number of stop/starts per hour.

## BETRIEBSFAKTOR

Um Wechselbelastungen, Lebensdauer und Zuverlässigkeit eines Getriebes zu gewährleisten, ist es erforderlich einen angemessenen Betriebsfaktor zu wählen. Dadurch wird der Antrieb den an hingestellten Bedingungen gerecht. In der nachfolgenden Tabelle sind die Betriebsfaktoren ersichtlich, die sich auf allgemeine Anwendungen beziehen. Die nicht ersichtlichen Betriebsfaktoren können ermittelt werden, indem man Belastungsart, Einschaltdauer Std. und Betriebsstunden zugrunde legt.

Classe di carico Load classification Belastungsart	Tipo di applicazione Application Anwendungsbereich	Avv./ora Starts/hour Schaltungen/Std	Ore di funzionamento giornaliere Average operating hours per day Mittlere tägliche Betriebsdauer in Std			
			< 2	2 ÷ 8	9 ÷ 16	17 ÷ 24
<p>Avviamenti graduali, carichi uniformi, piccole masse da accelerare <b>Easy starting, smooth operation, small masses to be accelerated</b> <i>Leichter Anlauf, stoßfreier Betrieb, kleine zu beschleunigende Massen</i></p>	<p>Ventilatori • Pompe centrifughe • Pompe rotative a ingranaggi • Trasportatori a nastro con carico uniformemente distribuito • Generatori di corrente • Imbottigliatrici • Filatoi • Comandi ausiliari delle macchine utensili. <b>Centrifugal pumps • Belt conveyors with uniformly distributed load • Bottling machines • Auxiliary controls of machine tools • Rotary gear pumps • Fans • Power generators</b> <i>Ventilatoren, Zahnradpumpen • Montagebänder • Leichte Transportbänder • Förderschnecken • Flüssigkeitsrührwerke • Abfüll- und Verpackungsmaschinen • Generatoren, Lüfter • Reinigungsmaschinen</i></p>	< 10	.75	1	1.25	1.5
<p>Leggeri sovraccarichi, condizioni operative irregolari, medie masse da accelerare <b>Starting with moderate loads, uneven operating conditions, medium size masses to be accelerated</b> <i>Anlauf mit mäßigen Stoßen, ungleichmäßiger Betrieb, mittlere zu beschleunigende Massen</i></p>	<p>Telai • Aspi • Trasportatori a nastro con carico vario a tapparella - a coclea - a catena • Traslazione di carri ponte per servizio leggero • Bobinatrici • Agitatori e miscelatori di liquidi a densità variabile e vischiosi • Macchine per l'industria alimentare • Macchine vagliatrici di pietre e sabbia • Gru e montacarichi <b>Belt conveyors with varied load with transfer of bridge trucks for light duty • Levelling machines • Shakers and mixers for liquids with variable density and viscosity • Machines for the food industry (kneading troughs, mincing machines, slicing machines etc.) • Sifting machines for sand gravel • Textile industry machines • Cranes, hoists, goodstifts.</b> <i>Textilmaschinen, Webstühle, Haspeln • Transportbänder aller Art • Förderschnecken • Schliebetore, Aufzüge • Kranantriebe • Werkzeugmaschinen, Holzbearbeitungsmaschinen • Druckmaschinen • Knetmaschinen • Rollfässer, Rührwerke für halbflüssige u. teigige Massen • Rollangantriebe • Verpackungsmaschinen</i></p>	< 10	1	1.25	1.5	1.75
		10 ÷ 50	1.25	1.5	1.75	2
		50 ÷ 100	1.5	1.75	2	2.2
<p>Forti sovraccarichi, condizioni operative irregolari, grandi masse da accelerare <b>Uneven operation, heavy loads, larger masses to be accelerated</b> <i>Ungleichmäßiger Betrieb, heftige Stöße, größere zu beschleunigende Massen</i></p>	<p>Macchine per laterizi e lavorazioni argilla • Mescolatori • Impastatrici • Betoniere • Compressori e pompe alternative a 1 o più cilindri • Macchine utensili • Limatrici • Pialatrici • Alesatrici • Fresatrici • Laminatoi • Argani elevatori a tazze • Forni rotativi • Molini • Frantoi • Presse • Magli • Seghe alternative • Ventilatori pesanti da miniera • Trasportatori a forti scosse <b>Machinery for bricks, tiles and clay • Kneaders • Compressors and alternate pumps with 1 or more cylinders • Milling Machines • Lifting winches with buckets • Rotating furnaces • Heavy fans for mining purposes • Conveyors with violent jerks • Mixers • Concrete mixers • Machine-tools • Planing machines • Rolling-mills • Mills • Presses of all kinds • Alternating saws</b> <i>Abkantmaschinen, Stanzen • Betonmischer, Zerkleinerungsmaschinen • Ziegelpressen, Schmiedepressen • Gebläse, Kompressoren, Kolbenpumpen Sägegatter • Schwere Winden • Walzwerke • schwere Werkzeugmaschinen • Kollergänge, Hammermühlen • Extruder, Kalandar • Förderanlagen für schweres Gut • Elevatoren, Becherwerke, Trog- und Schraubenförderer</i></p>	< 10	1.25	1.5	1.75	2
		10 ÷ 50	1.5	1.75	2	2.2
		50 ÷ 100	1.75	2	2.2	2.5
		100 ÷ 200	1.75	2	2.2	2.5

fs

In presenza di motori autofrenanti moltiplicare i valori in tabella per 1.12.

Multiply table figures by 1.12 for brake motors.

Bei Einsatz von selbstbremsenden Motoren sind die werte der Tabelle mit 1.12 zu multiplizieren



**PRESTAZIONI**  
**PERFORMANCES**  
*LEISTUNG*

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## PL 63

### PRESTAZIONI

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	10.60	264	180	5.2	7.1	0.96
	13.65	205	180	4.0	5.5	0.96
	15.01	187	180	3.7	5.0	0.96
	17.97	156	216	3.7	5.0	0.96
	18.71	150	153	2.5	3.4	0.96
	23.12	121	207	2.7	3.7	0.96
	25.42	110	207	2.5	3.4	0.96
	31.69	88	162	1.6	2.1	0.96
1400	10.60	132	200	2.9	3.9	0.96
	13.65	103	200	2.2	3.0	0.96
	15.01	93	200	2.0	2.8	0.96
	17.97	78	240	2.0	2.8	0.96
	18.71	75	170	1.4	1.9	0.96
	23.12	61	230	1.5	2.1	0.96
	25.42	55	230	1.4	1.9	0.96
	31.69	44	180	0.9	1.2	0.96
900	10.60	85	220	2.0	2.8	0.96
	13.65	66	220	1.6	2.2	0.96
	15.01	60	220	1.4	2.0	0.96
	17.97	50	264	1.4	2.0	0.96
	18.71	48	187	1.0	1.3	0.96
	23.12	39	253	1.1	1.5	0.96
	25.42	35	253	1.0	1.3	0.96
	31.69	28	198	0.6	0.8	0.96

### PERFORMANCES

### LEISTUNG

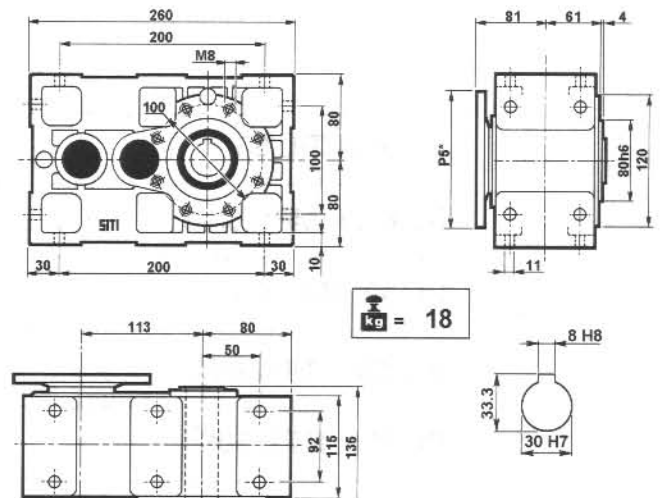
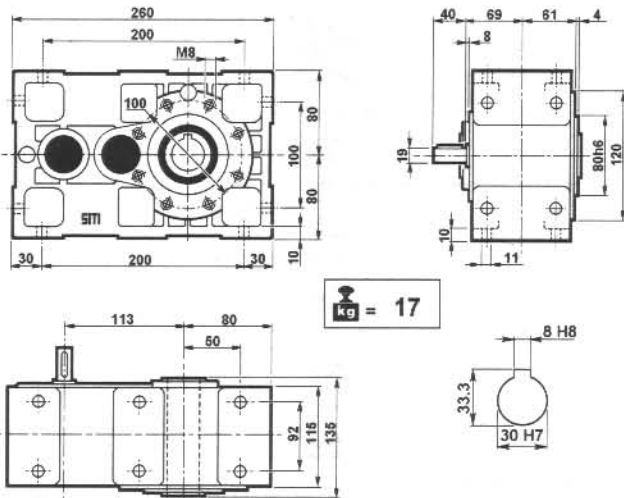
## MPL 63

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	10.60	264	76	2.2	3	0.96	2.36	24/200 - 19/200
	13.65	205	98	2.2	3	0.96	1.83	24/200 - 19/200
	15.01	187	108	2.2	3	0.96	1.66	24/200 - 19/200
	17.97	156	129	2.2	3	0.96	1.67	24/200 - 19/200
	18.71	150	135	2.2	3	0.96	1.14	24/200 - 19/200
	23.12	121	167	2.2	3	0.96	1.24	24/200 - 19/200
	25.42	110	125	1.5	2	0.96	1.66	24/200 - 19/200
	31.69	88	156	1.5	2	0.96	1.04	24/200 - 19/200
1400	10.60	132	125	1.8	2.5	0.96	1.60	24/200 - 19/200
	13.65	103	161	1.8	2.5	0.96	1.24	24/200 - 19/200
	15.01	93	177	1.8	2.5	0.96	1.13	24/200 - 19/200
	17.97	78	212	1.8	2.5	0.96	1.13	24/200 - 19/200
	18.71	75	184	1.5	2	0.96	0.92	24/200 - 19/200
	23.12	61	227	1.5	2	0.96	1.01	24/200 - 19/200
	25.42	55	183	1.1	1.5	0.96	1.26	24/200 - 19/200
	31.69	44	156	0.75	1	0.96	1.16	24/200 - 19/200
900	10.60	85	119	1.1	1.5	0.96	1.85	24/200 - 19/200
	13.65	66	153	1.1	1.5	0.96	1.44	24/200 - 19/200
	15.01	60	168	1.1	1.5	0.96	1.31	24/200 - 19/200
	17.97	50	201	1.1	1.5	0.96	1.31	24/200 - 19/200
	18.71	48	210	1.1	1.5	0.96	0.89	24/200 - 19/200
	23.12	39	259	1.1	1.5	0.96	0.98	24/200 - 19/200
	25.42	35	194	0.75	1	0.96	1.30	24/200 - 19/200
	31.69	28	178	0.55	0.75	0.96	1.12	24/200 - 19/200

### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PL 63

MPL 63

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

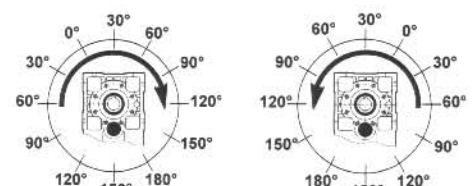
### OVERHUNG LOADS (N)

### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE							
1400 min <sup>-1</sup>	PL 63			PL 63/3			
	650			400			
ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PL 63 - PL 63/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	9205	9517	10327	11572	13002	14121	14562
40	6961	7276	8022	9267	10700	11880	12320
60	5911	6159	6907	8150	9582	10762	11259
80	5164	5413	6159	7404	8836	10079	10514
100	4666	4916	5598	6838	8271	9500	10016
120	4291	4480	5225	6409	7902	9145	9643
140	3982	4156	4848	5946	7332	8486	8948
160	3732	3896	4544	5574	6872	7954	8386

Rotazione oraria  
**Clockwise**  
rotation  
Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
rotation  
Gegenuhrzeigersinn



## PL 63/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 63/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	29.25	96	252	2.7	3.7	0.92
	37.68	74	270	2.3	3.1	0.92
	41.43	68	252	1.9	2.6	0.92
	47.53	59	180	1.2	1.6	0.92
	51.66	54	198	1.2	1.7	0.92
	58.72	48	270	1.5	2.0	0.92
	64.55	43	252	1.2	1.7	0.92
	67.37	42	198	0.9	1.3	0.92
	80.5	35	198	0.8	1.1	0.92
	83.22	34	270	1.0	1.4	0.92
	91.49	31	252	0.9	1.2	0.92
114.09	25	198	0.6	0.8	0.92	

1400	29.25	48	280	1.5	2.1	0.92
	37.68	37	300	1.3	1.7	0.92
	41.43	34	280	1.1	1.5	0.92
	47.53	29	200	0.7	0.9	0.92
	51.66	27	220	0.7	0.9	0.92
	58.72	24	300	0.8	1.1	0.92
	64.55	22	280	0.7	0.9	0.92
	67.37	21	220	0.5	0.7	0.92
	80.5	17	220	0.4	0.6	0.92
	83.22	17	300	0.6	0.8	0.92
	91.49	15	280	0.5	0.7	0.92
114.09	12	220	0.3	0.4	0.92	

900	29.25	31	308	1.1	1.5	0.92
	37.68	24	330	0.9	1.2	0.92
	41.43	22	308	0.8	1.0	0.92
	47.53	19	220	0.5	0.6	0.92
	51.66	17	242	0.5	0.7	0.92
	58.72	15	330	0.6	0.8	0.92
	64.55	14	308	0.5	0.7	0.92
	67.37	13	242	0.4	0.5	0.92
	80.5	11	242	0.3	0.4	0.92
	83.22	11	330	0.4	0.6	0.92
	91.49	10	308	0.3	0.5	0.92
114.09	8	242	0.2	0.3	0.92	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	29.25	96	138	1.5	2	0.92	1.83	19/200 - 14/160
	37.68	74	177	1.5	2	0.92	1.52	19/200 - 14/160
	41.43	68	195	1.5	2	0.92	1.29	19/200 - 14/160
	47.53	59	112	0.75	1	0.92	1.61	14/160
	51.66	54	178	1.1	1.5	0.92	1.11	19/200 - 14/160
	58.72	48	138	0.75	1	0.92	1.95	14/160
	64.55	43	152	0.75	1	0.92	1.66	14/160
	67.37	42	53	0.25	0.34	0.92	3.75	11/140
	80.5	35	189	0.75	1	0.92	1.05	14/160
	83.22	34	65	0.25	0.34	0.92	4.14	11/140
	91.49	31	72	0.25	0.34	0.92	3.51	11/140
114.09	25	89	0.25	0.34	0.92	2.21	11/140	

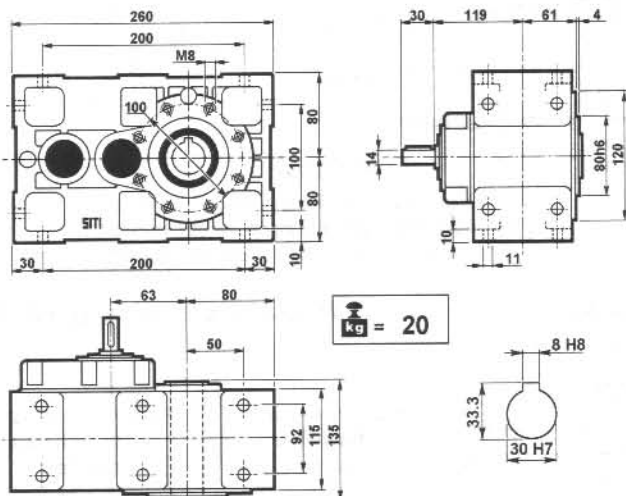
1400	29.25	48	138	0.75	1	0.92	2.03	19/200 - 14/160
	37.68	37	177	0.75	1	0.92	1.69	19/200 - 14/160
	41.43	34	195	0.75	1	0.92	1.44	19/200 - 14/160
	47.53	29	110	0.37	0.5	0.92	1.81	14/160
	51.66	27	243	0.75	1	0.92	0.90	19/200 - 14/160
	58.72	24	136	0.37	0.5	0.92	2.20	14/160
	64.55	22	150	0.37	0.5	0.92	1.87	14/160
	67.37	21	76	0.18	0.25	0.92	2.89	11/140
	80.5	17	187	0.37	0.50	0.92	1.18	14/160
	83.22	17	94	0.18	0.25	0.92	3.19	11/140
	91.49	15	103	0.18	0.25	0.92	2.71	11/140
114.09	12	129	0.18	0.25	0.92	1.71	11/140	

900	29.25	31	157	0.55	0.75	0.92	1.96	19/200 - 14/160
	37.68	24	202	0.55	0.75	0.92	1.63	19/200 - 14/160
	41.43	22	222	0.55	0.75	0.92	1.38	19/200 - 14/160
	47.53	19	216	0.25	0.34	0.92	1.90	14/160
	51.66	17	277	0.55	0.75	0.92	0.87	19/200 - 14/160
	58.72	15	143	0.25	0.34	0.92	2.30	14/160
	64.55	14	158	0.25	0.34	0.92	1.96	14/160
	67.37	13	79	0.12	0.16	0.92	3.07	11/140
	80.5	11	196	0.25	0.34	0.92	1.23	14/160
	83.22	11	97	0.12	0.16	0.92	3.8	11/140
	91.49	10	107	0.12	0.16	0.92	2.87	11/140
114.09	8	134	0.12	0.16	0.92	1.81	11/140	

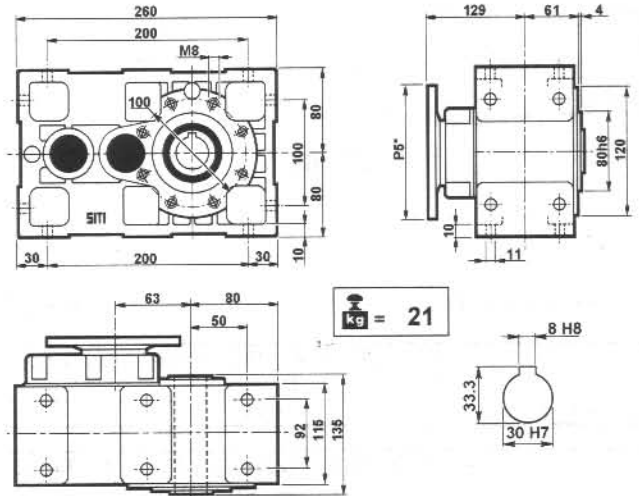
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PL 63 / 3



MPL 63 / 3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

## PL 80

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 80

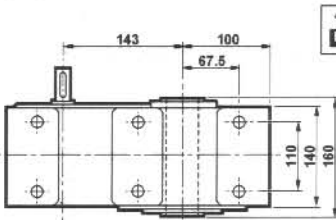
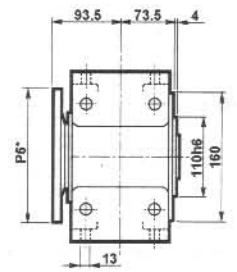
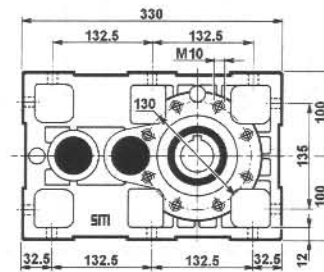
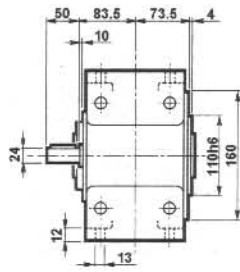
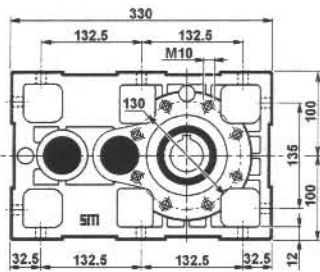
	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	10.02	279	360	11.0	14.9	0.96	
	12.94	216	360	8.5	11.6	0.96	
	15.78	177	360	7.0	9.5	0.96	
	17.95	156	441	7.5	10.2	0.96	
	20.17	139	405	6.1	8.3	0.96	
	23.17	121	378	5.0	6.8	0.96	
	28.26	99	378	4.1	5.6	0.96	
36.13	77	360	3.0	4.1	0.96		
1400	10.02	140	400	6.1	8.3	0.96	
	12.94	108	400	4.7	6.4	0.96	
	15.78	89	400	3.9	5.3	0.96	
	17.95	78	490	4.2	5.7	0.96	
	20.17	69	450	3.4	4.6	0.96	
	23.17	60	420	2.8	3.8	0.96	
	28.26	50	420	2.3	3.1	0.96	
36.13	39	400	1.7	2.3	0.96		
900	10.02	90	440	4.3	5.9	0.96	
	12.94	70	440	3.3	4.5	0.96	
	15.78	57	440	2.7	3.7	0.96	
	17.95	50	539	2.9	4.0	0.96	
	20.17	45	495	2.4	3.3	0.96	
	23.17	39	462	2.0	2.7	0.96	
	28.26	32	462	1.6	2.2	0.96	
36.13	25	440	1.2	1.6	0.96		

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	10.02	279	180	5.5	7.5	0.96	2.00	28/250 - 24/200	
	12.94	216	233	5.5	7.5	0.96	1.54	28/250 - 24/200	
	15.78	177	284	5.5	7.5	0.96	1.27	28/250 - 24/200	
	17.95	156	323	5.5	7.5	0.96	1.36	28/250 - 24/200	
	20.17	139	363	5.5	7.5	0.96	1.11	28/250 - 24/200	
	23.17	121	303	4	5.5	0.96	1.25	28/250 - 24/200	
	28.26	99	370	4	5.5	0.96	1.02	28/250 - 24/200	
36.13	77	260	2.2	3	0.96	1.38	28/250 - 24/200		
1400	10.02	140	262	4	5.5	0.96	1.52	28/250 - 24/200	
	12.94	108	339	4	5.5	0.96	1.18	28/250 - 24/200	
	15.78	89	310	3	4	0.96	1.29	28/250 - 24/200	
	17.95	78	470	4	5.5	0.96	1.04	28/250 - 24/200	
	20.17	69	396	3	4	0.96	1.14	28/250 - 24/200	
	23.17	60	334	2.2	3	0.96	1.26	28/250 - 24/200	
	28.26	50	407	2.2	3	0.96	1.03	28/250 - 24/200	
36.13	39	365	1.5	2	0.96	1.13	28/250 - 24/200		
900	10.02	90	225	2.2	3	0.96	1.96	28/250 - 24/200	
	12.94	70	290	2.2	3	0.96	1.52	28/250 - 24/200	
	15.78	57	354	2.2	3	0.96	1.24	28/250 - 24/200	
	17.95	50	402	2.2	3	0.96	1.34	28/250 - 24/200	
	20.17	45	452	2.2	3	0.96	1.10	28/250 - 24/200	
	23.17	39	354	1.5	2	0.96	1.30	28/250 - 24/200	
	28.26	32	432	1.5	2	0.96	1.07	28/250 - 24/200	
36.13	25	405	1.1	1.5	0.96	1.09	28/250 - 24/200		

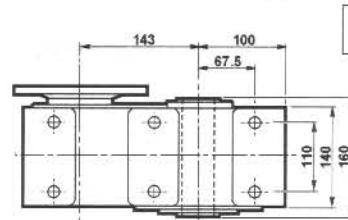
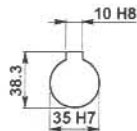
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

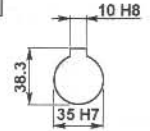
### ALLGEMEINE ABMESSUNGEN



**kg = 29**



**kg = 30**



### PL 80

### MPL 80

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

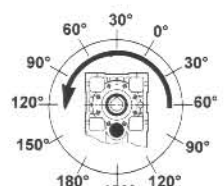
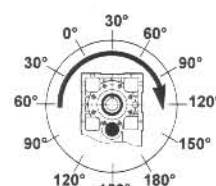
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PL 80	PL 80/3
	900	650

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PL 80 - PL 80/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	9995	10333	11213	12565	14118	15332	15811
40	7558	7900	8710	10062	11618	12899	13377
60	6418	6687	7499	8849	10403	11685	12225
80	5607	5878	6687	8039	9594	10944	11416
100	5066	5337	6078	7425	8981	10314	10375
120	4659	4864	5673	6959	8580	9930	10470
140	4323	4513	5264	6457	7961	9214	9715
160	4052	4230	4934	6052	7462	8636	9106

Rotazione oraria  
**Clockwise**  
rotation  
Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
rotation  
Gegenuhrzeigersinn



## PL 80/3

### PRESTAZIONI

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	24.45	115	459	6.0	8.1	0.92
	31.57	89	459	4.6	6.3	0.92
	38.47	73	450	3.7	5.1	0.92
	46.91	60	432	2.9	4.0	0.92
	49.22	57	360	2.3	3.2	0.92
	56.54	50	459	2.6	3.5	0.92
	59.97	47	360	1.9	2.6	0.92
	68.95	41	441	2.0	2.8	0.92
	84.58	33	468	1.8	2.4	0.92
	88.15	32	378	1.4	1.9	0.92
	103.15	27	450	1.4	1.9	0.92
	131.86	21	378	0.9	1.2	0.92

1400	24.45	57	510	3.3	4.5	0.92
	31.57	44	510	2.6	3.5	0.92
	38.47	36	500	2.1	2.8	0.92
	46.91	30	480	1.6	2.2	0.92
	49.22	28	400	1.3	1.8	0.92
	56.54	25	510	1.4	2.0	0.92
	59.97	23	400	1.1	1.4	0.92
	68.95	20	490	1.1	1.5	0.92
	84.58	17	520	1.0	1.3	0.92
	88.15	16	420	0.8	1.0	0.92
	103.15	14	500	0.8	1.1	0.92
	131.86	11	420	0.5	0.7	0.92

900	24.45	37	561	2.4	3.2	0.92
	31.57	29	561	1.8	2.5	0.92
	38.47	23	550	1.5	2.0	0.92
	46.91	19	528	1.2	1.6	0.92
	49.22	18	440	0.9	1.2	0.92
	56.54	16	561	1.0	1.4	0.92
	59.97	15	440	0.8	1.0	0.92
	68.95	13	539	0.8	1.1	0.92
	84.58	11	572	0.7	0.9	0.92
	88.15	10	462	0.5	0.7	0.92
	103.15	9	550	0.5	0.7	0.92
	131.86	7	462	0.4	0.5	0.92

### PERFORMANCES

### LEISTUNG

## MPL 80/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	P.A.M.	
2800	24.45	115	169	2.2	3	0.92	2.72	24/200 - 19/200
	31.57	89	218	2.2	3	0.92	2.11	24/200 - 19/200
	38.47	73	362	3	4	0.92	1.24	28/250 - 24/200
	46.91	60	442	3	4	0.92	0.98	28/250 - 24/200
	49.22	57	340	2.2	3	0.92	1.06	24/200 - 19/200
	56.54	50	390	2.2	3	0.92	1.18	24/200 - 19/200
	59.97	47	282	1.5	2	0.92	1.28	28/250 - 24/200
	68.95	41	325	1.5	2	0.92	1.36	24/200 - 19/200
	84.58	33	199	0.75	1	0.92	2.35	14/160
	88.15	32	304	1.10	1.5	0.92	1.24	24/200 - 19/200
	103.15	27	243	0.75	1	0.92	1.85	14/160
	131.86	21	310	0.75	1	0.92	1.22	14/160

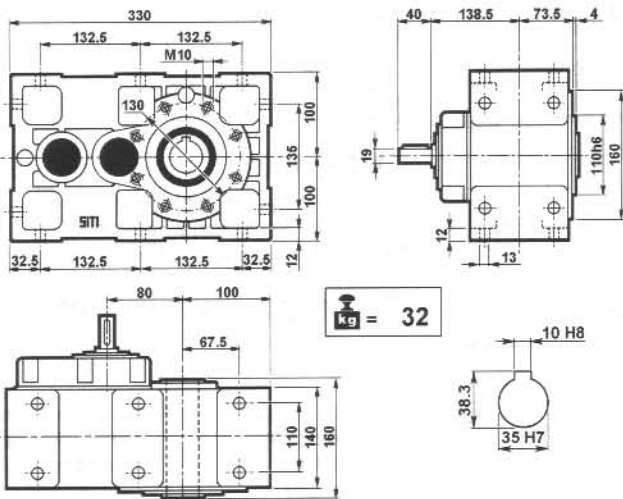
1400	24.45	57	276	1.8	2.5	0.92	1.85	24/200 - 19/200
	31.57	44	357	1.8	2.5	0.92	1.43	24/200 - 19/200
	38.47	36	531	2.2	3	0.92	0.94	28/250 - 24/200
	46.91	30	442	1.5	2	0.92	1.09	28/250 - 24/200
	49.22	28	340	1.1	1.5	0.92	1.18	24/200 - 19/200
	56.54	25	390	1.1	1.5	0.92	1.31	24/200 - 19/200
	59.97	23	414	1.1	1.5	0.92	0.97	28/250 - 24/200
	68.95	20	476	1.1	1.5	0.92	1.03	24/200 - 19/200
	84.58	17	196	0.37	0.5	0.92	2.65	14/160
	88.15	16	415	0.75	1	0.92	1.01	24/200 - 19/200
	103.15	14	240	0.37	0.5	0.92	2.09	14/160
	131.86	11	306	0.37	0.5	0.92	1.37	14/160

900	24.45	37	263	1.1	1.5	0.92	2.14	24/200 - 19/200
	31.57	29	339	1.1	1.5	0.92	1.65	24/200 - 19/200
	38.47	23	563	1.5	2	0.92	0.98	28/250 - 24/200
	46.91	19	504	1.1	1.5	0.92	1.05	28/250 - 24/200
	49.22	18	360	0.75	1	0.92	1.22	24/200 - 19/200
	56.54	16	414	0.75	1	0.92	1.36	24/200 - 19/200
	59.97	15	439	0.75	1	0.92	1.00	28/250 - 24/200
	68.95	13	505	0.75	1	0.92	1.07	24/200 - 19/200
	84.58	11	206	0.25	0.34	0.92	2.77	14/160
	88.15	10	473	0.55	0.75	0.92	0.89	24/200 - 19/200
	103.15	9	252	0.25	0.34	0.92	2.18	14/160
	131.86	7	322	0.25	0.34	0.92	1.44	14/160

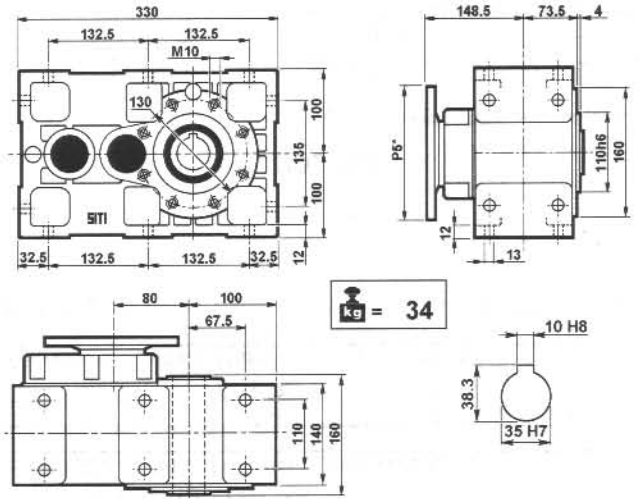
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PL 80/3



MPL 80/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

## PL 100

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 100

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	9.98	281	720	22.0	30.0	0.96	
	12.89	217	720	17.1	23.2	0.96	
	15.47	181	855	16.9	23.0	0.96	
	15.72	178	720	14.0	19.0	0.96	
	19.98	140	810	12.4	16.8	0.96	
	20.49	137	675	10.1	13.7	0.96	
	24.36	115	810	10.2	13.8	0.96	
	31.75	88	675	6.5	8.8	0.96	

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	9.98	281	359	11	15	0.96	2.01		38/300 - 28/250
	12.89	217	464	11	15	0.96	1.55		38/300 - 28/250
	15.47	178	557	11	15	0.96	1.54		38/300 - 28/250
	15.72	137	566	11	15	0.96	1.27		38/300 - 28/250
	19.98	181	720	11	15	0.96	1.13		38/300 - 28/250
	20.49	140	604	9	12.5	0.96	1.12		38/300 - 28/250
	24.36	115	718	9	12.5	0.96	1.13		38/300 - 28/250
	31.75	88	672	5.5	7.5	0.96	1.18		38/300 - 28/250

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
1400	9.98	140	800	12.2	16.6	0.96	
	12.89	109	800	9.5	12.9	0.96	
	15.47	90	950	9.4	12.8	0.96	
	15.72	89	800	7.8	10.6	0.96	
	19.98	70	900	6.9	9.4	0.96	
	20.49	68	750	5.6	7.6	0.96	
	24.36	57	900	5.6	7.7	0.96	
	31.75	44	750	3.6	4.9	0.96	

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
1400	9.98	140	719	11	15	0.96	1.11		38/300 - 28/250
	12.89	109	777	9.2	12.5	0.96	1.03		38/300 - 28/250
	15.47	90	932	9.2	12.5	0.96	1.02		38/300 - 28/250
	15.72	89	772	7.5	10	0.96	1.04		38/300 - 28/250
	19.98	70	720	5.5	7.5	0.96	1.25		38/300 - 28/250
	20.49	68	738	5.5	7.5	0.96	1.02		38/300 - 28/250
	24.36	57	877	5.5	7.5	0.96	1.03		38/300 - 28/250
	31.75	44	624	3	4	0.96	1.20		38/300 - 28/250

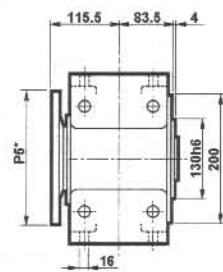
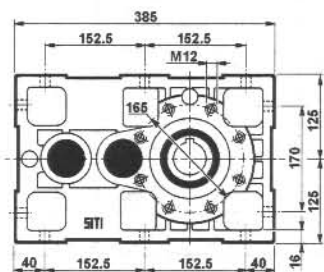
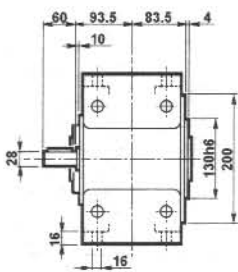
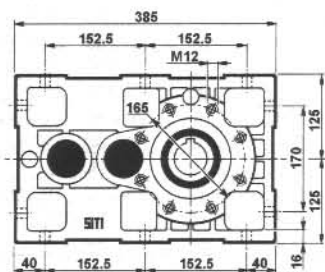
	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
900	9.98	90	880	8.7	11.8	0.96	
	12.89	70	880	6.7	9.1	0.96	
	15.47	58	1045	6.6	9.0	0.96	
	15.72	57	880	5.5	7.5	0.96	
	19.98	45	990	4.9	6.6	0.96	
	20.49	44	825	4.0	5.4	0.96	
	24.36	37	990	4.0	5.4	0.96	
	31.75	28	825	2.6	3.5	0.96	

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
900	9.98	90	559	5.5	7.5	0.96	1.57		38/300 - 28/250
	12.89	70	722	5.5	7.5	0.96	1.22		38/300 - 28/250
	15.47	58	867	5.5	7.5	0.96	1.21		38/300 - 28/250
	15.72	57	881	5.5	7.5	0.96	1.00		38/300 - 28/250
	19.98	45	814	4	5.5	0.96	1.22		38/300 - 28/250
	20.49	44	835	4	5.5	0.96	0.99		38/300 - 28/250
	24.36	37	993	4	5.5	0.96	1.00		38/300 - 28/250
	31.75	28	712	2.2	3	0.96	1.16		38/300 - 28/250

### DIMENSIONI D'INGOMBRO

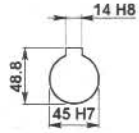
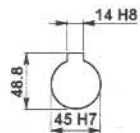
### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



**kg = 47**

**kg = 49**



### PL 100

### MPL 100

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
 P<sub>5</sub>\* : See PAM size for each single version  
 P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

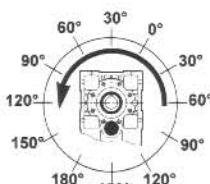
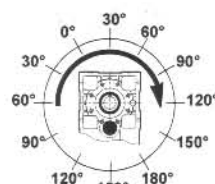
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PL 100	PL 100/3
	1400	1000

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PL 100 - PL 100/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	13186	13632	14793	16577	18625	20227	20859
40	9972	10422	11491	13274	15327	17017	17646
60	8467	8822	9893	11674	13725	15415	16128
80	7397	7754	8822	10606	12657	14438	15060
100	6684	7041	8019	9795	11848	13607	14347
120	6147	6417	7485	9180	11319	13100	13813
140	5704	5954	6945	8518	10502	12155	12817
160	5346	5580	6509	7984	9844	11393	12013

Rotazione oraria  
**Clockwise**  
 rotation  
 Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
 rotation  
 Gegenuhrzeigersinn





## PL 100/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 100/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	21.40	131	810	12.1	16.4	0.92
	25.68	109	900	11.2	15.2	0.92
	33.16	84	882	8.5	11.5	0.92
	37.74	74	918	7.8	10.5	0.92
	40.44	69	882	7.0	9.5	0.92
	48.74	57	900	5.9	8.0	0.92
	52.70	53	720	4.4	5.9	0.92
	59.44	47	900	4.8	6.6	0.92
	72.91	38	918	4.0	5.5	0.92
	77.47	36	720	3.0	4.0	0.92
	88.91	31	918	3.3	4.5	0.92
	115.88	24	720	2.0	2.7	0.92

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	21.40	131	369	5.5	7.5	0.92	2.19	28/250 - 24/200
	25.68	109	443	5.5	7.5	0.92	2.03	28/250 - 24/200
	33.16	84	572	5.5	7.5	0.92	1.54	28/250 - 24/200
	37.74	74	261	2.2	3	0.92	3.52	24/200 - 19/200
	40.44	69	698	5.5	7.5	0.92	1.26	28/250 - 24/200
	48.74	57	336	2.2	3	0.92	2.67	24/200 - 19/200
	52.70	53	661	4	5.5	0.92	1.09	28/250 - 24/200
	59.44	47	410	2.2	3	0.92	2.19	24/200 - 19/200
	72.91	38	343	1.5	2	0.92	2.68	14/160
	77.47	36	535	2.2	3	0.92	1.35	24/200 - 19/200
	88.91	31	418	1.5	2	0.92	2.19	14/160
	115.88	24	545	1.5	2	0.92	1.32	14/160

1400	21.40	65	900	6.7	9.1	0.92
	25.68	55	1000	6.2	8.4	0.92
	33.16	42	980	4.7	6.4	0.92
	37.74	37	1020	4.3	5.9	0.92
	40.44	35	980	3.9	5.3	0.92
	48.74	29	1000	3.3	4.4	0.92
	52.70	27	800	2.4	3.3	0.92
	59.44	24	1000	2.7	3.6	0.92
	72.91	19	1020	2.2	3.0	0.92
	77.47	18	800	1.6	2.2	0.92
	88.91	16	1020	1.8	2.5	0.92
	115.88	12	800	1.1	1.5	0.92

1400	21.40	65	537	4	5.5	0.92	1.68	28/250 - 24/200
	25.68	55	645	4	5.5	0.92	1.55	28/250 - 24/200
	33.16	42	832	4	5.5	0.92	1.18	28/250 - 24/200
	37.74	37	426	1.8	2.5	0.92	2.39	24/200 - 19/200
	40.44	35	1015	4	5.5	0.92	0.97	28/250 - 24/200
	48.74	29	551	1.8	2.5	0.92	1.82	24/200 - 19/200
	52.70	27	728	2.2	3	0.92	1.10	28/250 - 24/200
	59.44	24	671	1.8	2.5	0.92	1.49	24/200 - 19/200
	72.91	19	343	0.75	1	0.92	2.97	14/160
	77.47	18	729	1.5	2	0.92	1.10	24/200 - 19/200
	88.91	16	418	0.75	1	0.92	2.44	14/160
	115.88	12	545	0.75	1	0.92	1.47	14/160

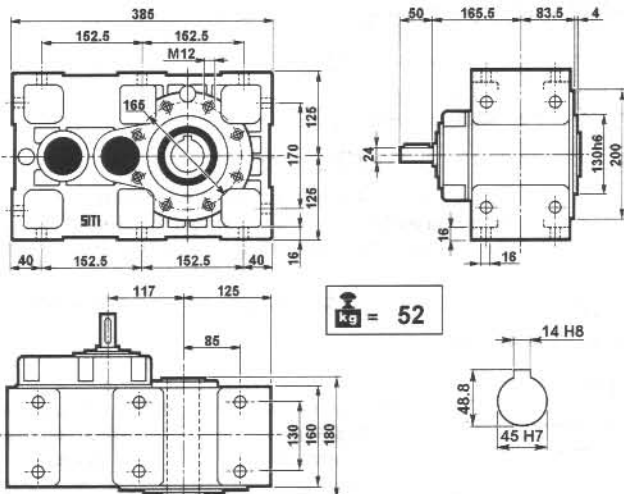
900	21.40	42	990	4.7	6.4	0.92
	25.68	35	1100	4.4	6.0	0.92
	33.16	27	1078	3.3	4.5	0.92
	37.74	24	1122	3.0	4.1	0.92
	40.44	22	1078	2.7	3.7	0.92
	48.74	18	1100	2.3	3.1	0.92
	52.70	17	880	1.7	2.3	0.92
	59.44	15	1100	1.9	2.6	0.92
	72.91	12	1122	1.6	2.1	0.92
	77.47	12	880	1.2	1.6	0.92
	88.91	10	1122	1.3	1.8	0.92
	115.88	8	880	0.8	1.1	0.92

900	21.40	42	460	2.2	3	0.92	2.15	28/250 - 24/200
	25.68	35	552	2.2	3	0.92	1.99	28/250 - 24/200
	33.16	27	712	2.2	3	0.92	1.51	28/250 - 24/200
	37.74	24	405	1.1	1.5	0.92	2.77	24/200 - 19/200
	40.44	22	869	2.2	3	0.92	1.24	28/250 - 24/200
	48.74	18	523	1.1	1.5	0.92	2.10	24/200 - 19/200
	52.70	17	926	1.8	2.5	0.92	0.95	28/250 - 24/200
	59.44	15	638	1.1	1.5	0.92	1.72	24/200 - 19/200
	72.91	12	391	0.55	0.75	0.92	2.87	14/160
	77.47	12	832	1.1	1.5	0.92	1.06	24/200 - 19/200
	88.91	10	477	0.55	0.75	0.92	2.35	14/160
	115.88	8	622	0.55	0.75	0.92	1.41	14/160

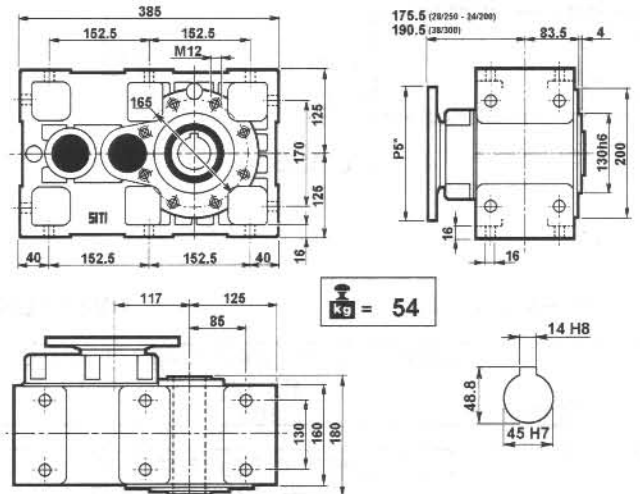
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PL 100/3



MPL 100/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

## PL 125

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 125

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	10.48	267	1440	42.0	57.1	0.96
	13.49	208	1440	32.6	44.3	0.96
	16.28	172	1440	27.0	36.7	0.96
	16.43	170	1305	24.3	33.0	0.96
	18.60	151	1620	26.6	36.2	0.96
	20.96	134	1530	22.3	30.3	0.96
	25.52	110	1485	17.8	24.2	0.96
28.90	97	1305	13.8	18.8	0.96	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	10.48	267	635	18.5	25	0.96	2.27	42/350 - 38/300
	13.49	208	817	18.5	25	0.96	1.76	42/350 - 38/300
	16.28	172	986	18.5	25	0.96	1.46	42/350 - 38/300
	16.43	170	995	18.5	25	0.96	1.31	42/350 - 38/300
	18.60	151	1127	18.5	25	0.96	1.44	42/350 - 38/300
	20.96	134	1270	18.5	25	0.96	1.21	42/350 - 38/300
	25.52	110	1253	15	20	0.96	1.18	42/350 - 38/300
28.90	97	1041	11	15	0.96	1.25	42/350 - 38/300	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
1400	10.48	134	1600	23.3	31.7	0.96
	13.49	104	1600	18.1	24.6	0.96
	16.28	86	1600	15.0	20.4	0.96
	16.43	85	1450	13.5	18.3	0.96
	18.60	75	1800	14.8	20.1	0.96
	20.96	67	1700	12.4	16.8	0.96
	25.52	55	1650	9.9	13.4	0.96
28.90	48	1450	7.7	10.4	0.96	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
1400	10.48	134	1029	15	20	0.96	1.55	42/350 - 38/300
	13.49	104	1325	15	20	0.96	1.21	42/350 - 38/300
	16.28	86	1599	15	20	0.96	1.00	42/350 - 38/300
	16.43	85	1184	11	15	0.96	1.23	42/350 - 38/300
	18.60	75	1827	15	20	0.96	0.99	42/350 - 38/300
	20.96	67	1510	11	15	0.96	1.13	42/350 - 38/300
	25.52	55	1537	9.2	12.5	0.96	1.07	42/350 - 38/300
28.90	48	1419	7.5	10	0.96	1.02	42/350 - 38/300	

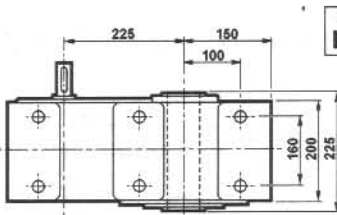
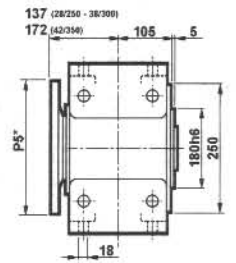
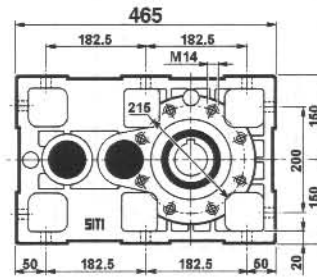
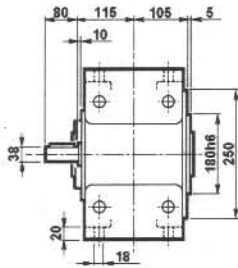
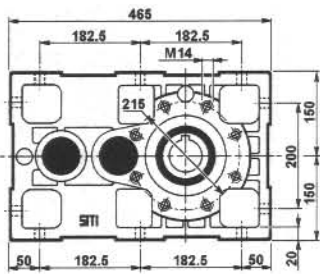
n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
900	10.48	86	1760	16.5	22.4	0.96
	13.49	67	1760	12.8	17.4	0.96
	16.28	55	1760	10.6	14.4	0.96
	16.43	55	1595	9.5	13.0	0.96
	18.60	48	1980	10.5	14.2	0.96
	20.96	43	1870	8.8	11.9	0.96
	25.52	35	1815	7.0	9.5	0.96
28.90	31	1595	5.4	7.4	0.96	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
900	10.48	86	1174	11	15	0.96	1.50	42/350 - 38/300
	13.49	67	1512	11	15	0.96	1.16	42/350 - 38/300
	16.28	55	1824	11	15	0.96	0.96	42/350 - 38/300
	16.43	55	1255	7.5	10	0.96	1.27	42/350 - 38/300
	18.60	48	2084	11	15	0.96	0.95	42/350 - 38/300
	20.96	43	1601	7.5	10	0.96	1.17	42/350 - 38/300
	25.52	35	1430	5.5	7.5	0.96	1.27	42/350 - 38/300
28.90	31	1619	5.5	7.5	0.96	0.99	42/350 - 38/300	

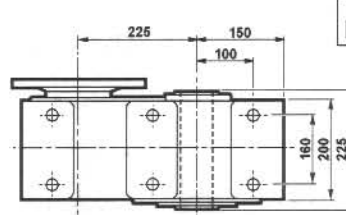
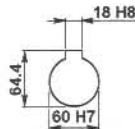
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

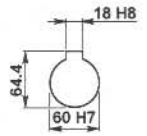
### ALLGEMEINE ABMESSUNGEN



kg = 85



kg = 87



### PL 125

### MPL 125

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
 P<sub>5</sub>\* : See PAM size for each single version  
 P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

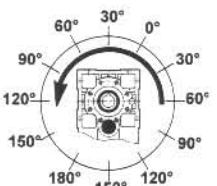
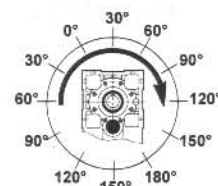
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PL 125	PL 125/3
	2100	1600

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PL 125 - PL 125/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	18837	19474	21133	23681	26607	28896	29799
40	14245	14889	16415	18963	21896	24310	25211
60	12096	12604	14133	16678	19607	22022	23041
80	10567	11078	12604	15152	18081	20626	21515
100	9548	10059	11456	13993	16926	19439	20496
120	8782	9167	10693	13115	16170	18715	19733
140	8148	8505	9921	12168	15003	17364	18309
160	7637	7972	9299	11405	14063	16275	17161

Rotazione oraria  
 Clockwise  
 rotation  
 Uhrzeigersinn

Rotazione antioraria  
 Anticlockwise  
 rotation  
 Gegenuhrzeigersinn



## PL 125/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 125/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	26.47	106	1890	22.8	30.9	0.92
	30.32	92	1395	14.7	19.9	0.92
	34.08	82	1800	16.8	22.9	0.92
	38.46	73	1656	13.7	18.7	0.92
	41.49	67	1620	12.4	16.9	0.92
	47.25	59	1395	9.4	12.8	0.92
	53.11	53	1818	10.9	14.8	0.92
	59.60	47	1890	10.1	13.7	0.92
	64.66	43	1638	8.1	11.0	0.92
	73.22	38	1395	6.1	8.3	0.92
	93.42	30	1665	5.7	7.7	0.92
	105.79	26	1395	4.2	5.7	0.92

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	26.47	106	914	11	15	0.92	2.07	38/300
	30.32	92	1047	11	15	0.92	1.33	38/300
	34.08	82	1176	11	15	0.92	1.53	38/300
	38.46	73	664	5.5	7.5	0.92	2.49	19/200
	41.49	67	1432	11	15	0.92	1.13	38/300
	47.25	59	815	5.5	7.5	0.92	1.71	28/250
	53.11	53	917	5.5	7.5	0.92	1.98	28/250
	59.60	47	1029	5.5	7.5	0.92	1.84	19/200
	64.66	43	1116	5.5	7.5	0.92	1.47	28/250
	73.22	38	1264	5.5	7.5	0.92	1.10	28/250
	93.42	30	1612	5.5	7.5	0.92	1.03	19/200
	105.79	26	1328	4	7.5	0.92	1.05	19/200

1400	26.47	53	2100	12.6	17.2	0.92
	30.32	46	1550	8.1	11.1	0.92
	34.08	41	2000	9.4	12.7	0.92
	38.46	36	1840	7.6	10.4	0.92
	41.49	34	1800	6.9	9.4	0.92
	47.25	30	1550	5.2	7.1	0.92
	53.11	26	2020	6.1	8.2	0.92
	59.60	23	2100	5.6	7.6	0.92
	64.66	22	1820	4.5	6.1	0.92
	73.22	19	1550	3.4	4.6	0.92
	93.42	15	1850	3.2	4.3	0.92
	105.79	13	1550	2.3	3.2	0.92

1400	26.47	53	1827	11	15	0.92	1.15	38/300
	30.32	46	1751	9.2	12.5	0.92	0.89	38/300
	34.08	41	1968	9.2	12.5	0.92	1.02	38/300
	38.46	36	965	4	5.5	0.92	1.91	19/200
	41.49	34	1432	5.5	7.5	0.92	1.26	38/300
	47.25	30	1188	4	5.5	0.92	1.31	28/250
	53.11	26	1333	4	5.5	0.92	1.52	28/250
	59.60	23	1496	4	5.5	0.92	1.40	19/200
	64.66	22	1623	4	5.5	0.92	1.12	28/250
	73.22	19	1379	3	4	0.92	1.12	28/250
	93.42	15	1759	3	4	0.92	1.05	19/200
	105.79	13	1461	2.2	3	0.92	1.06	19/200

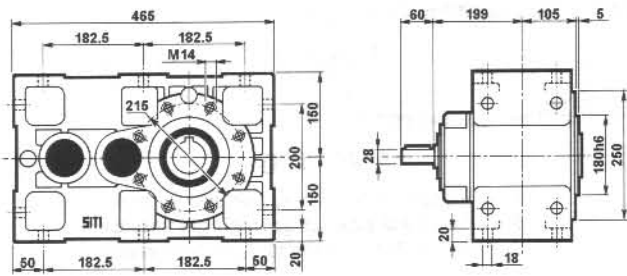
900	26.47	34	2310	8.9	12.2	0.92
	30.32	30	1705	5.8	7.8	0.92
	34.08	26	2200	6.6	9.0	0.92
	38.46	23	2024	5.4	7.3	0.92
	41.49	22	1980	4.9	6.6	0.92
	47.25	19	1705	3.7	5.0	0.92
	53.11	17	2222	4.3	5.8	0.92
	59.60	15	2310	4.0	5.4	0.92
	64.66	14	2002	3.2	4.3	0.92
	73.22	12	1705	2.4	3.2	0.92
	93.42	10	2035	2.2	3.0	0.92
	105.79	9	1705	1.7	2.2	0.92

900	26.47	34	1421	5.5	7.5	0.92	1.63	38/300
	30.32	30	1628	5.5	7.5	0.92	1.05	38/300
	34.08	26	1830	5.5	7.5	0.92	1.20	38/300
	38.46	23	826	2.2	3	0.92	2.45	19/200
	41.49	22	1620	4	5.5	0.92	1.22	38/300
	47.25	19	1015	2.2	3	0.92	1.68	28/250
	53.11	17	1141	2.2	3	0.92	1.95	28/250
	59.60	15	1280	2.2	3	0.92	1.80	19/200
	64.66	14	1389	2.2	3	0.92	1.44	28/250
	73.22	12	1573	2.2	3	0.92	1.08	28/250
	93.42	10	2006	2.2	3	0.92	1.01	19/200
	105.79	9	1549	1.5	2	0.92	1.10	19/200

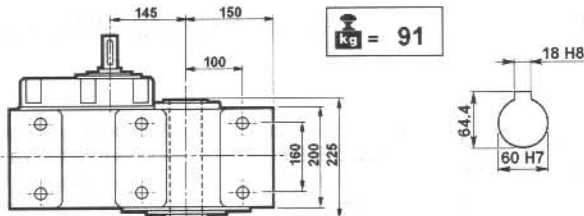
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

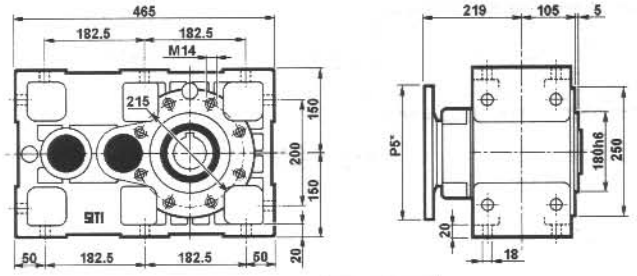
### ALLGEMEINE ABMESSUNGEN



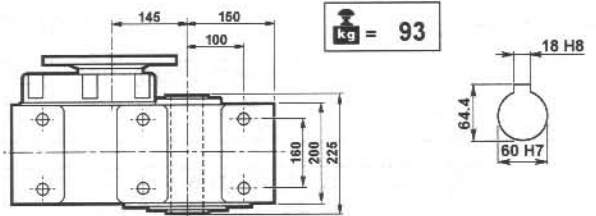
**kg = 91**



**PL 125/3**



**kg = 93**



**MPL 125/3**

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Größe für jede Ausführung

## PL 160

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 160

$n_1$	$i$	$n_2$	$M_2$ (Nm)	$kW_1$	$HP_1$	RD
2800	9.87	284	2700	83.5	113.6	0.96
	12.74	220	2880	69.0	93.9	0.96
	15.54	180	2880	56.6	77.0	0.96
	16.27	172	3150	59.1	80.4	0.96
	19.87	141	2610	40.1	54.6	0.96
	21.01	133	3150	45.8	62.3	0.96
	25.62	109	2880	34.3	46.7	0.96
	32.75	85	2700	25.2	34.2	0.96

1400	9.87	142	3000	46.4	63.1	0.96
	12.74	110	3200	38.4	52.2	0.96
	15.54	90	3200	31.4	42.8	0.96
	16.27	86	3500	32.8	44.7	0.96
	19.87	70	2900	22.3	30.3	0.96
	21.01	67	3500	25.4	34.6	0.96
	25.62	55	3200	19.1	25.9	0.96
	32.75	43	3000	14.0	19.0	0.96

900	9.87	91	3300	32.8	44.6	0.96
	12.74	71	3520	27.1	36.9	0.96
	15.54	58	3520	22.2	30.2	0.96
	16.27	55	3850	23.2	31.6	0.96
	19.87	45	3190	15.8	21.4	0.96
	21.01	43	3850	18.0	24.5	0.96
	25.62	35	3520	13.5	18.3	0.96
	32.75	27	3300	9.9	13.5	0.96

$n_1$	$i$	$n_2$	$M_2$ (Nm)	$kW_1$	$HP_1$	RD	$f_s$	P.A.M.
2800	9.87	284	808	25	34	0.96	3.34	48/350 - 42/350
	12.74	220	1043	25	34	0.96	2.76	48/350 - 42/350
	15.54	180	1272	25	34	0.96	2.26	48/350 - 42/350
	16.27	172	1332	25	34	0.96	2.37	48/350 - 42/350
	19.87	141	1627	25	34	0.96	1.60	48/350 - 42/350
	21.01	133	1720	25	34	0.96	1.83	48/350 - 42/350
	25.62	109	2097	25	34	0.96	1.37	48/350 - 42/350
	32.75	85	2681	25	34	0.96	1.01	48/350 - 42/350

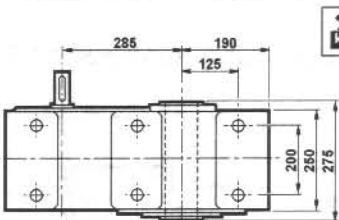
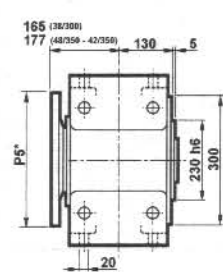
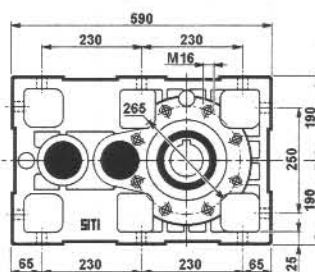
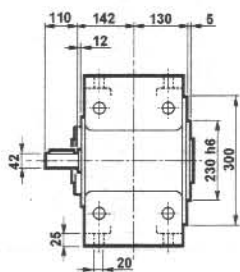
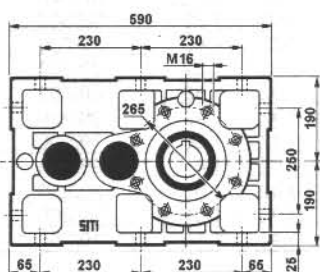
1400	9.87	142	1422	22	30	0.96	2.11	48/350 - 42/350
	12.74	110	1835	22	30	0.96	1.74	48/350 - 42/350
	15.54	90	2239	22	30	0.96	1.43	48/350 - 42/350
	16.27	86	2344	22	30	0.96	1.49	48/350 - 42/350
	19.87	70	2863	22	30	0.96	1.01	48/350 - 42/350
	21.01	87	3027	22	30	0.96	1.16	48/350 - 42/350
	25.62	55	3104	18.5	25	0.96	1.03	48/350 - 42/350
	32.75	43	3217	15	20	0.96	0.93	48/350 - 42/350

900	9.87	91	1508	15	20	0.96	2.19	48/350 - 42/350
	12.74	71	1947	15	20	0.96	1.81	48/350 - 42/350
	15.54	58	2375	15	20	0.96	1.48	48/350 - 42/350
	16.27	55	2486	15	20	0.96	1.55	48/350 - 42/350
	19.87	45	3036	15	20	0.96	1.05	48/350 - 42/350
	21.01	43	3210	15	20	0.96	1.20	48/350 - 42/350
	25.62	35	2871	11	15	0.96	1.23	48/350 - 42/350
	32.75	27	2502	7.5	10	0.96	1.32	48/350 - 42/350

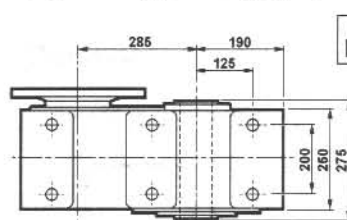
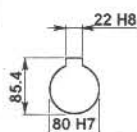
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

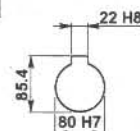
### ALLGEMEINE ABMESSUNGEN



kg = 162



kg = 165



PL 160

MPL 160

$P_5^*$ : Vedere i PAM per ogni singola versione  
 $P_5^*$ : See PAM size for each single version  
 $P_5^*$ : Siehe PAM Größe für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

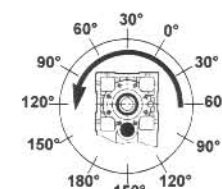
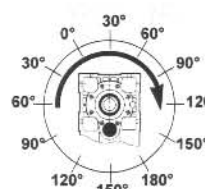
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
$1400 \text{ min}^{-1}$	PL 160	PL 160/3
	3200	2300

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PL 160- PL 160/3							
$\text{min}^{-1}$	$0^\circ$	$30^\circ$	$60^\circ$	$90^\circ$	$120^\circ$	$150^\circ$	$180^\circ$
20	26910	27820	30190	33830	38010	41280	42570
40	20350	21270	23450	27090	31280	34729	36015
60	17280	18005	20190	23825	28010	31460	32915
80	15095	15825	18005	21645	25830	29465	30735
100	13640	14370	16365	19990	24180	27770	29280
120	12545	13095	15275	18735	23100	26735	28190
140	11640	12150	14173	17383	21434	24806	26156
160	10910	11388	13284	16293	20089	23251	24516

Rotazione oraria  
**Clockwise**  
 rotation  
*Uhrzeigersinn*

Rotazione antioraria  
**Anticlockwise**  
 rotation  
*Gegenuhrzeigersinn*



## PL 160/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPL 160/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	34.24	82	3240	30.2	41.0	0.92
	39.47	71	2988	24.1	32.8	0.92
	41.78	67	3240	24.7	33.6	0.92
	50.46	55	2880	18.2	24.7	0.92
	53.36	52	3258	19.5	26.5	0.92
	58.57	48	3015	16.4	22.3	0.92
	65.07	43	3258	16.0	21.7	0.92
	71.52	39	2880	12.8	17.5	0.92
	75.63	37	3285	13.8	18.8	0.92
	83.19	34	2880	11.0	15.0	0.92
	92.23	30	3285	11.4	15.4	0.92
117.9	24	2880	7.8	10.6	0.92	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	34.24	82	2686	25	34	0.92	1.21	48/350 - 42/350
	39.47	71	1362	11	15	0.92	2.19	38/300
	41.78	67	3276	25	34	0.92	0.99	48/350 - 42/350
	50.46	55	1742	11	15	0.92	1.65	38/300
	53.36	52	1842	11	15	0.92	1.77	38/300
	58.57	48	1011	5.5	7.5	0.92	2.98	28/250
	65.07	43	2246	11	15	0.92	1.45	38/300
	71.52	39	1234	5.5	7.5	0.92	2.33	28/250
	75.63	37	1305	5.5	7.5	0.92	2.52	28/250
	83.19	34	2871	11	15	0.92	1.00	38/300
	92.23	30	1592	5.5	7.5	0.92	2.06	28/250
117.9	24	2035	5.5	7.5	0.92	1.42	28/250	

1400	34.24	41	3600	16.8	22.8	0.92
	39.47	35	3320	13.4	18.2	0.92
	41.78	34	3600	13.7	18.7	0.92
	50.46	28	3200	10.1	13.7	0.92
	53.36	26	3620	10.8	14.7	0.92
	58.57	24	3350	9.1	12.4	0.92
	65.07	22	3620	8.9	12.1	0.92
	71.52	20	3200	7.1	9.7	0.92
	75.63	19	3650	7.7	10.5	0.92
	83.19	17	3200	6.1	8.3	0.92
	92.23	15	3650	6.3	8.6	0.92
117.9	12	3200	4.3	5.9	0.92	

1400	34.24	41	3223	10	20	0.92	1.12	48/350 - 42/350
	39.47	35	2725	11	15	0.92	1.22	38/300
	41.78	34	3931	15	20	0.92	0.92	48/350 - 42/350
	50.46	28	2913	9.2	12.5	0.92	1.10	38/300
	53.36	26	3081	9.2	12.5	0.92	1.18	38/300
	58.57	24	1470	4	5.5	0.92	2.28	28/250
	65.07	22	3063	7.5	10	0.92	1.18	38/300
	71.52	20	1795	4	5.5	0.92	1.78	28/250
	75.63	19	1899	4	5.5	0.92	1.92	28/250
	83.19	17	2871	5.5	7.5	0.92	1.11	38/300
	92.23	15	2315	4	5.5	0.92	1.58	28/250
117.9	12	2960	4	5.5	0.92	1.08	28/250	

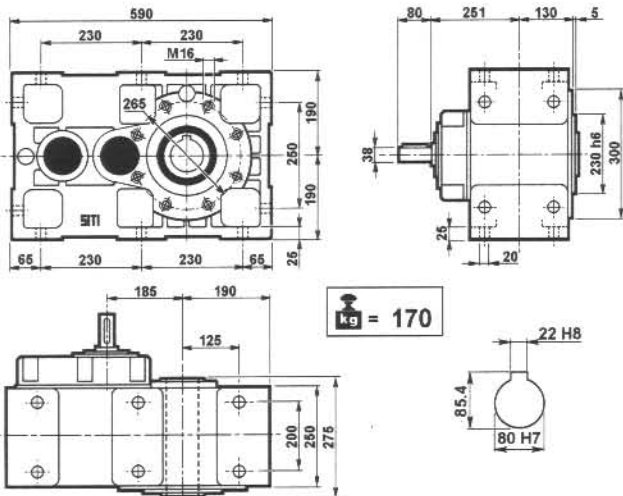
900	34.24	26	3960	11.8	16.1	0.92
	39.47	23	3652	9.5	12.9	0.92
	41.78	22	3960	9.7	13.2	0.92
	50.46	18	3520	7.1	9.7	0.92
	53.36	17	3982	7.6	10.4	0.92
	58.57	15	3685	6.4	8.8	0.92
	65.07	14	3982	6.3	8.5	0.92
	71.52	13	3520	5.0	6.9	0.92
	75.63	12	4015	5.4	7.4	0.92
	83.19	11	3520	4.3	5.9	0.92
	92.23	10	4015	4.5	6.1	0.92
117.9	8	3520	3.1	4.2	0.92	

900	34.24	26	3677	11	15	0.92	1.08	48/350 - 42/350
	39.47	23	2119	5.5	7.5	0.92	1.72	38/300
	41.78	22	3058	7.5	10	0.92	1.30	48/350 - 42/350
	50.46	18	2709	5.5	7.5	0.92	1.30	38/300
	53.36	17	2865	5.5	7.5	0.92	1.39	38/300
	58.57	15	1258	2.2	3	0.92	2.93	28/250
	65.07	14	3494	5.5	7.5	0.92	1.14	38/300
	71.52	13	1536	2.2	3	0.92	2.29	28/250
	75.63	12	1624	2.2	3	0.92	2.47	28/250
	83.19	11	3248	4	5.5	0.92	1.08	38/300
	92.23	10	1981	2.2	3	0.92	2.03	28/250
117.9	8	2532	2.2	3	0.92	1.39	28/250	

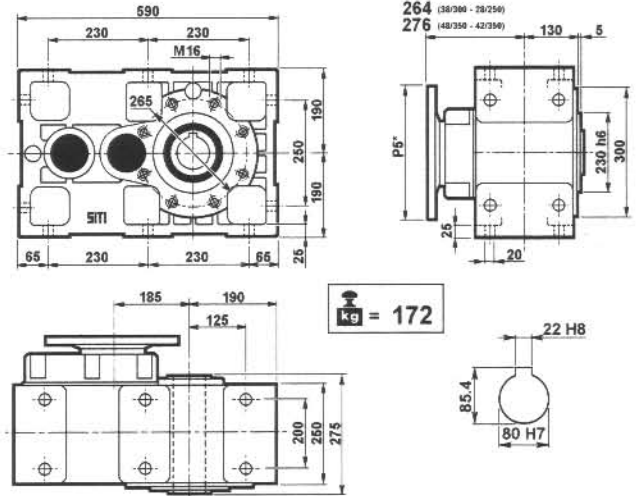
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PL 160/3



MPL 160/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

**PRESTAZIONI  
PERFORMANCES  
LEISTUNG**

**PD..  
PD../3**

	<b>Pag. Page Seite</b>
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<b>PD 63/3, MPD 63/3</b>	<b>47</b>
<b>PD 80, MPD 80</b>	<b>48</b>
<b>PD 80/3, MPD 80/3</b>	<b>49</b>
<b>PD 100, MPD 100</b>	<b>50</b>
<b>PD 100/3, MPD 100/3</b>	<b>51</b>
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## PD 63

### PRESTAZIONI

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	10.60	264	180	5.2	7.1	0.96
	13.65	205	180	4.0	5.5	0.96
	15.01	187	180	3.7	5.0	0.96
	17.97	156	216	3.7	5.0	0.96
	18.71	150	153	2.5	3.4	0.96
	23.12	121	207	2.7	3.7	0.96
	25.42	110	207	2.5	3.4	0.96
	31.69	88	162	1.6	2.1	0.96
1400	10.60	132	200	2.9	3.9	0.96
	13.65	103	200	2.2	3.0	0.96
	15.01	93	200	2.0	2.8	0.96
	17.97	78	240	2.0	2.8	0.96
	18.71	75	170	1.4	1.9	0.96
	23.12	61	230	1.5	2.1	0.96
	25.42	55	230	1.4	1.9	0.96
	31.69	44	180	0.9	1.2	0.96
900	10.60	85	220	2.0	2.8	0.96
	13.65	66	220	1.6	2.2	0.96
	15.01	60	220	1.4	2.0	0.96
	17.97	50	264	1.4	2.0	0.96
	18.71	48	187	1.0	1.3	0.96
	23.12	39	253	1.1	1.5	0.96
	25.42	35	253	1.0	1.3	0.96
	31.69	28	198	0.6	0.8	0.96

### PERFORMANCES

### LEISTUNG

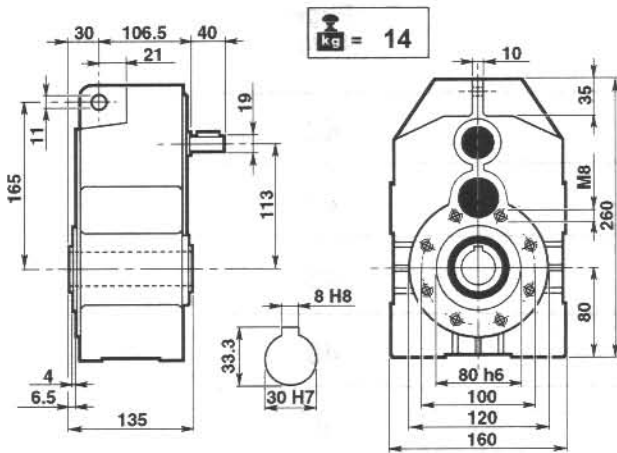
## MPD 63

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	10.60	264	76	2.2	3	0.96	2.36	24/200 - 19/200
	13.65	205	98	2.2	3	0.96	1.83	24/200 - 19/200
	15.01	187	108	2.2	3	0.96	1.66	24/200 - 19/200
	17.97	156	129	2.2	3	0.96	1.67	24/200 - 19/200
	18.71	150	135	2.2	3	0.96	1.14	24/200 - 19/200
	23.12	121	167	2.2	3	0.96	1.24	24/200 - 19/200
	25.42	110	125	1.5	2	0.96	1.66	24/200 - 19/200
	31.69	88	156	1.5	2	0.96	1.04	24/200 - 19/200
1400	10.60	132	125	1.8	2.5	0.96	1.60	24/200 - 19/200
	13.65	103	161	1.8	2.5	0.96	1.24	24/200 - 19/200
	15.01	93	177	1.8	2.5	0.96	1.13	24/200 - 19/200
	17.97	78	212	1.8	2.5	0.96	1.13	24/200 - 19/200
	18.71	75	184	1.5	2.0	0.96	0.92	24/200 - 19/200
	23.12	61	227	1.5	2.0	0.96	1.01	24/200 - 19/200
	25.42	55	183	1.1	1.5	0.96	1.26	24/200 - 19/200
	31.69	44	156	0.75	1.0	0.96	1.16	24/200 - 19/200
900	10.60	85	119	1.1	1.5	0.96	1.85	24/200 - 19/200
	13.65	66	153	1.1	1.5	0.96	1.44	24/200 - 19/200
	15.01	60	168	1.1	1.5	0.96	1.31	24/200 - 19/200
	17.97	50	201	1.1	1.5	0.96	1.31	24/200 - 19/200
	18.71	48	210	1.1	1.5	0.96	0.89	24/200 - 19/200
	23.12	40	259	1.1	1.5	0.96	0.98	24/200 - 19/200
	25.42	35	194	0.75	1.0	0.96	1.30	24/200 - 19/200
	31.69	28	178	0.55	0.75	0.96	1.12	24/200 - 19/200

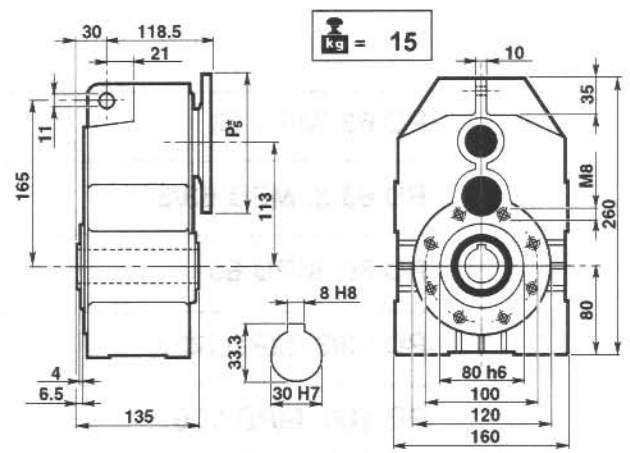
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 63



MPD 63

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

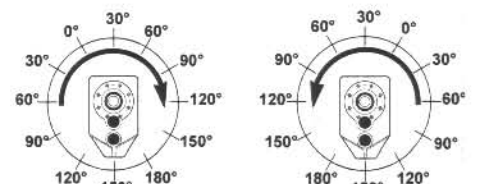
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PD 63	PD 63/3
	650	400

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PD 63 - PD 63/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	9205	9517	10327	11572	13002	14121	14562
40	6961	7276	8022	9267	10700	11880	12320
60	5911	6159	6907	8150	9582	10762	11259
80	5164	5413	6159	7404	8836	10079	10514
100	4666	4916	5598	6838	8271	9500	10016
120	4291	4480	5225	6409	7902	9145	9643
140	3982	4156	4848	5946	7332	8486	8948
160	3732	3896	4544	5574	6872	7954	8386

Rotazione oraria  
**Clockwise**  
rotation  
Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
rotation  
Gegenuhrzeigersinn



## PD 63/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPD 63/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	29.25	96	252	2.7	3.7	0.92
	37.68	74	270	2.3	3.1	0.92
	41.43	68	252	1.9	2.6	0.92
	47.53	59	180	1.2	1.6	0.92
	51.66	54	198	1.2	1.7	0.92
	58.72	48	270	1.5	2.0	0.92
	64.55	43	252	1.2	1.7	0.92
	67.37	42	198	0.9	1.3	0.92
	80.5	35	198	0.8	1.1	0.92
	83.22	34	270	1.0	1.4	0.92
	91.49	31	252	0.9	1.2	0.92
114.09	25	198	0.6	0.8	0.92	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	29.25	96	138	1.50	2	0.92	1.83	19/200 - 14/160
	37.68	74	177	1.50	2	0.92	1.52	19/200 - 14/160
	41.43	66	195	1.50	2	0.92	1.29	19/200 - 14/160
	47.53	59	112	0.75	1	0.92	1.61	14/160
	51.66	54	178	1.10	1.5	0.92	1.11	19/200 - 14/160
	58.72	48	138	0.75	1	0.92	1.95	14/160
	64.55	43	152	0.75	1	0.92	1.66	14/160
	67.37	42	53	0.25	0.34	0.92	3.75	11/140
	80.5	35	189	0.75	1	0.92	1.05	14/160
	83.22	34	65	0.25	0.34	0.92	4.14	11/140
	91.49	31	72	0.25	0.34	0.92	3.51	11/140
114.09	25	89	0.25	0.34	0.92	2.21	11/140	

1400	29.25	48	280	1.5	2.1	0.92
	37.68	37	300	1.3	1.7	0.92
	41.43	34	280	1.1	1.5	0.92
	47.53	29	200	0.7	0.9	0.92
	51.66	27	220	0.7	0.9	0.92
	58.72	24	300	0.8	1.1	0.92
	64.55	22	280	0.7	0.9	0.92
	67.37	21	220	0.5	0.7	0.92
	80.5	17	220	0.4	0.6	0.92
	83.22	17	300	0.6	0.8	0.92
	91.49	15	280	0.5	0.7	0.92
114.09	12	220	0.3	0.4	0.92	

1400	29.25	48	138	0.75	1	0.92	2.03	19/200 - 14/160
	37.68	37	177	0.75	1	0.92	1.69	19/200 - 14/160
	41.43	34	195	0.75	1	0.92	1.44	19/200 - 14/160
	47.53	29	110	0.37	0.5	0.92	1.81	14/160
	51.66	27	243	0.75	1	0.92	0.90	19/200 - 14/160
	58.72	24	136	0.37	0.5	0.92	2.20	14/160
	64.55	22	150	0.37	0.5	0.92	1.87	14/160
	67.37	21	76	0.18	0.25	0.92	2.89	11/140
	80.5	17	187	0.37	0.50	0.92	1.18	14/160
	83.22	17	94	0.18	0.25	0.92	3.19	11/140
	91.49	15	103	0.18	0.25	0.92	2.71	11/140
114.09	12	129	0.18	0.25	0.92	1.71	11/140	

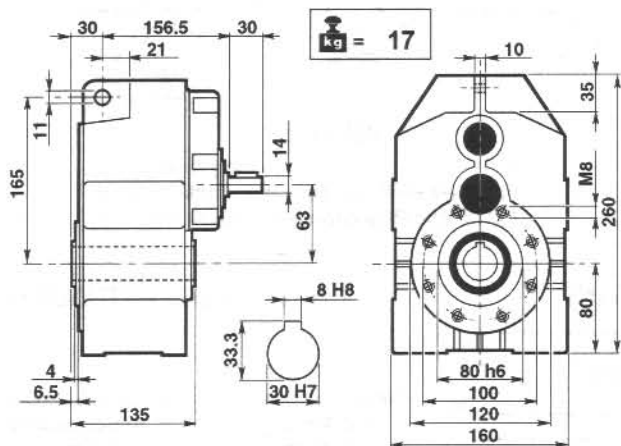
900	29.25	31	308	1.1	1.5	0.92
	37.68	24	330	0.9	1.2	0.92
	41.43	22	308	0.8	1.0	0.92
	47.53	19	220	0.5	0.6	0.92
	51.66	17	242	0.5	0.7	0.92
	58.72	15	330	0.6	0.8	0.92
	64.55	14	308	0.5	0.7	0.92
	67.37	13	242	0.4	0.5	0.92
	80.5	11	242	0.3	0.4	0.92
	83.22	11	330	0.4	0.6	0.92
	91.49	10	308	0.3	0.5	0.92
114.09	8	242	0.2	0.3	0.92	

900	29.25	31	157	0.55	0.75	0.92	1.96	19/200 - 14/160
	37.68	24	202	0.55	0.75	0.92	1.63	19/200 - 14/160
	41.43	22	222	0.55	0.75	0.92	1.38	19/200 - 14/160
	47.53	19	216	0.25	0.34	0.92	1.90	14/160
	51.66	17	277	0.55	0.75	0.92	0.87	19/200 - 14/160
	58.72	15	143	0.25	0.34	0.92	2.30	14/160
	64.55	14	158	0.25	0.34	0.92	1.96	14/160
	67.37	13	79	0.12	0.16	0.92	3.07	11/140
	80.5	11	196	0.25	0.34	0.92	1.23	14/160
	83.22	11	97	0.12	0.16	0.92	3.8	11/140
	91.49	10	107	0.12	0.16	0.92	2.87	11/140
114.09	8	134	0.12	0.16	0.92	1.81	11/140	

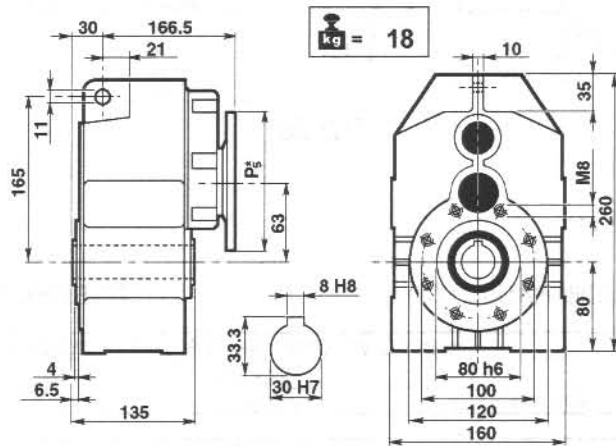
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 63/3



MPD 63/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung



## PD 80

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPD 80

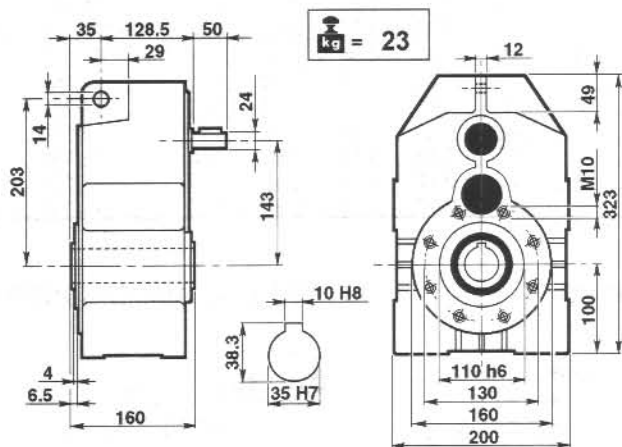
	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	10.02	279	360	11.0	14.9	0.96	
	12.94	216	360	8.5	11.6	0.96	
	15.78	177	360	7.0	9.5	0.96	
	17.95	156	441	7.5	10.2	0.96	
	20.17	139	405	6.1	8.3	0.96	
	23.17	121	378	5.0	6.8	0.96	
	28.26	99	378	4.1	5.6	0.96	
	36.13	77	360	3.0	4.1	0.96	
1400	10.02	140	400	6.1	8.3	0.96	
	12.94	108	400	4.7	6.4	0.96	
	15.78	89	400	3.9	5.3	0.96	
	17.95	78	490	4.2	5.7	0.96	
	20.17	69	450	3.4	4.6	0.96	
	23.17	60	420	2.8	3.8	0.96	
	28.26	50	420	2.3	3.1	0.96	
	36.13	39	400	1.7	2.3	0.96	
900	10.02	90	440	4.3	5.9	0.96	
	12.94	70	440	3.3	4.5	0.96	
	15.78	57	440	2.7	3.7	0.96	
	17.95	50	539	2.9	4.0	0.96	
	20.17	45	495	2.4	3.3	0.96	
	23.17	39	462	2.0	2.7	0.96	
	28.26	32	462	1.6	2.2	0.96	
	36.13	25	440	1.2	1.6	0.96	

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	10.02	279	180	5.5	7.5	0.96	2.00	28/250 - 24/200	
	12.94	216	233	5.5	7.5	0.96	1.54	28/250 - 24/200	
	15.78	177	284	5.5	7.5	0.96	1.27	28/250 - 24/200	
	17.95	156	323	5.5	7.5	0.96	1.36	28/250 - 24/200	
	20.17	139	363	5.5	7.5	0.96	1.11	28/250 - 24/200	
	23.17	121	303	4.0	5.5	0.96	1.25	28/250 - 24/200	
	28.26	99	370	4.0	5.5	0.96	1.02	28/250 - 24/200	
	36.13	77	260	2.2	3.0	0.96	1.38	28/250 - 24/200	
1400	10.02	140	262	4.0	5.5	0.96	1.52	28/250 - 24/200	
	12.94	108	339	4.0	5.5	0.96	1.18	28/250 - 24/200	
	15.78	89	310	3.0	4.0	0.96	1.29	28/250 - 24/200	
	17.95	78	470	4.0	5.5	0.96	1.04	28/250 - 24/200	
	20.17	69	396	3.0	4	0.96	1.14	28/250 - 24/200	
	23.17	60	334	2.2	3	0.96	1.26	28/250 - 24/200	
	28.26	49	407	2.2	3	0.96	1.03	28/250 - 24/200	
	36.13	39	365	1.5	2	0.96	1.13	28/250 - 24/200	
900	10.02	90	225	2.2	3	0.96	1.96	28/250 - 24/200	
	12.94	70	290	2.2	3	0.96	1.52	28/250 - 24/200	
	15.78	57	354	2.2	3	0.96	1.24	28/250 - 24/200	
	17.95	50	402	2.2	3	0.96	1.34	28/250 - 24/200	
	20.17	45	452	2.2	3	0.96	1.10	28/250 - 24/200	
	23.17	39	354	1.5	2	0.96	1.30	28/250 - 24/200	
	28.26	32	432	1.5	2	0.96	1.07	28/250 - 24/200	
	36.13	25	405	1.1	1.5	0.96	1.09	28/250 - 24/200	

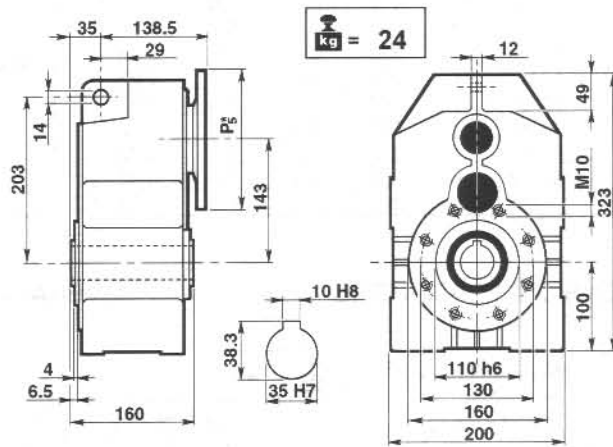
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 80



MPD 80

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

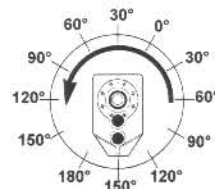
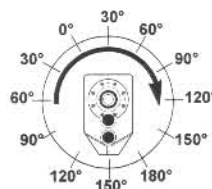
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PD 80	PD 80/3
	900	650

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PD 80 - PD 80/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	9995	10333	11213	12565	14118	15332	15811
40	7558	7900	8710	10062	11618	12899	13377
60	6418	6687	7499	8849	10403	11685	12225
80	5607	5878	6687	8039	9594	10944	11416
100	5066	5337	6078	7425	8981	10314	10375
120	4659	4864	5673	6959	8580	9930	10470
140	4323	4513	5264	6457	7961	9214	9715
160	4052	4230	4934	6052	7462	8636	9106

Rotazione oraria  
**Clockwise**  
rotation  
Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
rotation  
Gegenuhrzeigersinn



## PD 80/3

### PRESTAZIONI

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	24.45	115	459	6.0	8.1	0.92
	31.57	89	459	4.6	6.3	0.92
	38.47	73	450	3.7	5.1	0.92
	46.91	60	432	2.9	4.0	0.92
	49.22	57	360	2.3	3.2	0.92
	56.54	50	459	2.6	3.5	0.92
	59.97	47	360	1.9	2.6	0.92
	68.95	41	441	2.0	2.8	0.92
	84.58	33	468	1.8	2.4	0.92
	88.15	32	378	1.4	1.9	0.92
	103.15	27	450	1.4	1.9	0.92
	131.86	21	378	0.9	1.2	0.92

1400	24.45	57	510	3.3	4.5	0.92
	31.57	44	510	2.6	3.5	0.92
	38.47	36	500	2.1	2.8	0.92
	46.91	30	480	1.6	2.2	0.92
	49.22	28	400	1.3	1.8	0.92
	56.54	25	510	1.4	2.0	0.92
	59.97	23	400	1.1	1.4	0.92
	68.95	20	490	1.1	1.5	0.92
	84.58	17	520	1.0	1.3	0.92
	88.15	16	420	0.8	1.0	0.92
	103.15	14	500	0.8	1.1	0.92
	131.86	11	420	0.5	0.7	0.92

900	24.45	37	561	2.4	3.2	0.92
	31.57	29	561	1.8	2.5	0.92
	38.47	23	550	1.5	2.0	0.92
	46.91	19	528	1.2	1.6	0.92
	49.22	18	440	0.9	1.2	0.92
	56.54	16	561	1.0	1.4	0.92
	59.97	15	440	0.8	1.0	0.92
	68.95	13	539	0.8	1.1	0.92
	84.58	11	572	0.7	0.9	0.92
	88.15	10	462	0.5	0.7	0.92
	103.15	9	550	0.5	0.7	0.92
	131.86	7	462	0.4	0.5	0.92

### PERFORMANCES

### LEISTUNG

## MPD 80/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	P.A.M.
2800	24.45	115	169	2.2	3	0.92	24/200 - 19/200
	31.57	89	218	2.2	3	0.92	24/200 - 19/200
	38.47	73	362	3.0	4	0.92	28/250 - 24/200
	46.91	60	442	3.0	4	0.92	28/250 - 24/200
	49.22	57	340	2.2	3	0.92	24/200 - 19/200
	56.54	50	390	2.2	3	0.92	24/200 - 19/200
	59.97	47	282	1.5	2	0.92	28/250 - 24/200
	68.95	41	325	1.5	2	0.92	24/200 - 19/200
	84.58	33	199	0.75	1	0.92	14/160
	88.15	32	304	1.1	1.5	0.92	24/200 - 19/200
	103.15	27	243	0.75	1	0.92	14/160
	131.86	21	310	0.75	1	0.92	14/160

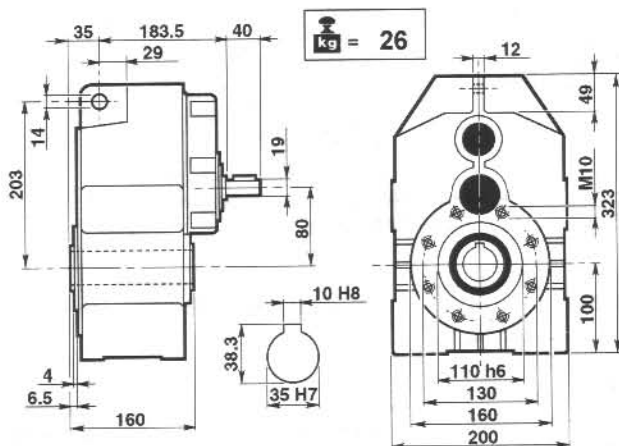
1400	24.45	57	276	1.8	2.5	0.92	24/200 - 19/200
	31.57	44	357	1.8	2.5	0.92	24/200 - 19/200
	38.47	36	531	2.2	3.0	0.92	28/250 - 24/200
	46.91	30	442	1.5	2.0	0.92	28/250 - 24/200
	49.22	28	340	1.1	1.5	0.92	24/200 - 19/200
	56.54	25	390	1.1	1.5	0.92	24/200 - 19/200
	59.97	23	414	1.1	1.5	0.92	28/250 - 24/200
	68.95	20	476	1.1	1.5	0.92	24/200 - 19/200
	84.58	17	196	0.37	0.5	0.92	14/160
	88.15	16	415	0.75	1.0	0.92	24/200 - 19/200
	103.15	14	240	0.37	0.5	0.92	14/160
	131.86	11	306	0.37	0.5	0.92	14/160

900	24.45	37	263	1.1	1.5	0.92	24/200 - 19/200
	31.57	29	339	1.1	1.5	0.92	24/200 - 19/200
	38.47	23	563	1.5	2.0	0.92	28/250 - 24/200
	46.91	19	504	1.1	1.5	0.92	28/250 - 24/200
	49.22	18	360	0.75	1.0	0.92	24/200 - 19/200
	56.54	16	414	0.75	1.0	0.92	24/200 - 19/200
	59.97	15	439	0.75	1.0	0.92	28/250 - 24/200
	68.95	13	505	0.75	1.0	0.92	24/200 - 19/200
	84.58	11	206	0.25	0.34	0.92	14/160
	88.15	10	473	0.55	0.75	0.92	24/200 - 19/200
	103.15	9	252	0.25	0.34	0.92	14/160
	131.86	7	322	0.25	0.34	0.92	14/160

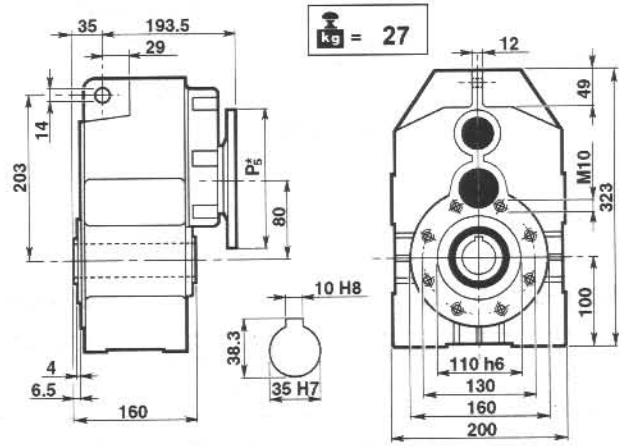
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 80/3



MPD 80/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

## PD 100

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPD 100

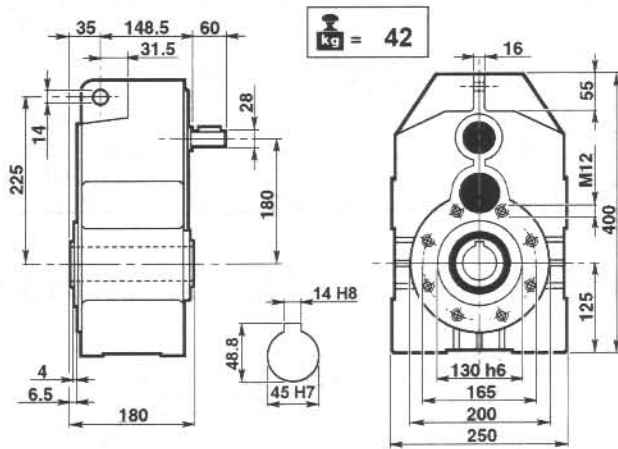
n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	9.98	281	720	22.0	30.0	0.96
	12.89	217	720	17.1	23.2	0.96
	15.47	181	855	16.9	23.0	0.96
	15.72	178	720	14.0	19.0	0.96
	19.98	140	810	12.4	16.8	0.96
	20.49	137	675	10.1	13.7	0.96
	24.36	115	810	10.2	13.8	0.96
31.75	88	675	6.5	8.8	0.96	
1400	9.98	140	800	12.2	16.6	0.96
	12.89	109	800	9.5	12.9	0.96
	15.47	90	950	9.4	12.8	0.96
	15.72	89	800	7.8	10.6	0.96
	19.98	70	900	6.9	9.4	0.96
	20.49	68	750	5.6	7.6	0.96
	24.36	57	900	5.6	7.7	0.96
31.75	44	750	3.6	4.9	0.96	
900	9.98	90	880	8.7	11.8	0.96
	12.89	70	880	6.7	9.1	0.96
	15.47	58	1045	6.6	9.0	0.96
	15.72	57	880	5.5	7.5	0.96
	19.98	45	990	4.9	6.6	0.96
	20.49	44	825	4.0	5.4	0.96
	24.36	37	990	4.0	5.4	0.96
31.75	28	825	2.6	3.5	0.96	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	9.98	281	359	11	15	0.96	2.01	38/300 - 28/250
	12.89	217	464	11	15	0.96	1.55	38/300 - 28/250
	15.47	178	557	11	15	0.96	1.54	38/300 - 28/250
	15.72	137	566	11	15	0.96	1.27	38/300 - 28/250
	19.98	181	720	11	15	0.96	1.13	38/300 - 28/250
	20.49	140	604	9	12.5	0.96	1.12	38/300 - 28/250
	24.36	115	718	9	12.5	0.96	1.13	38/300 - 28/250
31.75	88	672	5.5	7.5	0.96	1.18	38/300 - 28/250	
1400	9.98	140	719	11	15	0.96	1.11	38/300 - 28/250
	12.89	109	777	9.2	12.5	0.96	1.03	38/300 - 28/250
	15.47	90	932	9.2	12.5	0.96	1.02	38/300 - 28/250
	15.72	89	772	7.5	10	0.96	1.04	38/300 - 28/250
	19.98	70	720	5.5	7.5	0.96	1.25	38/300 - 28/250
	20.49	68	738	5.5	7.5	0.96	1.02	38/300 - 28/250
	24.36	57	877	5.5	7.5	0.96	1.03	38/300 - 28/250
31.75	44	624	3.0	4	0.96	1.20	38/300 - 28/250	
900	9.98	90	559	5.5	7.5	0.96	1.57	38/300 - 28/250
	12.89	70	722	5.5	7.5	0.96	1.22	38/300 - 28/250
	15.47	58	867	5.5	7.5	0.96	1.21	38/300 - 28/250
	15.72	57	881	5.5	7.5	0.96	1.00	38/300 - 28/250
	19.98	45	814	4.0	5.5	0.96	1.22	38/300 - 28/250
	20.49	44	835	4.0	5.5	0.96	0.99	38/300 - 28/250
	24.36	37	993	4.0	5.5	0.96	1.00	38/300 - 28/250
31.75	28	712	2.2	3.0	0.96	1.16	38/300 - 28/250	

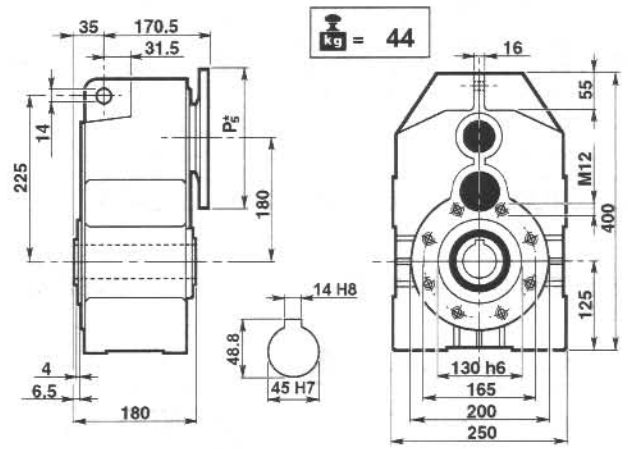
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 100



MPD 100

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

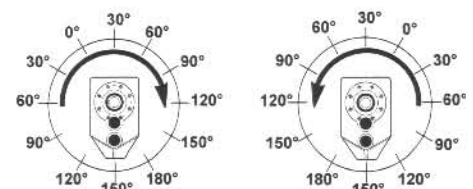
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PD 100	PD 100/3
	1400	1000

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PD 100 - PD 100/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	13186	13632	14793	16577	18625	20227	20859
40	9972	10422	11491	13274	15327	17017	17646
60	8467	8822	9893	11674	13725	15415	16128
80	7397	7754	8822	10606	12657	14438	15060
100	6684	7041	8019	9795	11848	13607	14347
120	6147	6417	7485	9180	11319	13100	13813
140	5704	5954	6945	8518	10502	12155	12817
160	5346	5580	6509	7984	9844	11393	12013

Rotazione oraria  
**Clockwise**  
rotation  
Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
rotation  
Gegenuhrzeigersinn



## PD 100/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPD 100/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	21.40	131	810	12.1	16.4	0.92
	25.68	109	900	11.2	15.2	0.92
	33.16	84	882	8.5	11.5	0.92
	37.74	74	918	7.8	10.5	0.92
	40.44	69	882	7.0	9.5	0.92
	48.74	57	900	5.9	8.0	0.92
	52.70	53	720	4.4	5.9	0.92
	59.44	47	900	4.8	6.6	0.92
	72.91	38	918	4.0	5.5	0.92
	77.47	36	720	3.0	4.0	0.92
	88.91	31	918	3.3	4.5	0.92
	115.88	24	720	2.0	2.7	0.92

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	21.40	131	369	5.5	7.5	0.92	2.19	28/250 - 24/200
	25.68	109	443	5.5	7.5	0.92	2.03	28/250 - 24/200
	33.16	84	572	5.5	7.5	0.92	1.54	28/250 - 24/200
	37.74	74	261	2.2	3.0	0.92	3.52	24/200 - 19/200
	40.44	69	698	5.5	7.5	0.92	1.26	28/250 - 24/200
	48.74	57	336	2.2	3.0	0.92	2.67	24/200 - 19/200
	52.70	53	661	4.0	5.5	0.92	1.09	28/250 - 24/200
	59.44	47	410	2.2	3	0.92	2.19	24/200 - 19/200
	72.91	38	343	1.5	2	0.92	2.68	14/160
	77.47	36	535	2.2	3	0.92	1.35	24/200 - 19/200
	88.91	31	418	1.5	2	0.92	2.19	14/160
	115.88	24	545	1.5	2	0.92	1.32	14/160

1400	21.40	65	900	6.7	9.1	0.92
	25.68	55	1000	6.2	8.4	0.92
	33.16	42	980	4.7	6.4	0.92
	37.74	37	1020	4.3	5.9	0.92
	40.44	35	980	3.9	5.3	0.92
	48.74	29	1000	3.3	4.4	0.92
	52.70	27	800	2.4	3.3	0.92
	59.44	24	1000	2.7	3.6	0.92
	72.91	19	1020	2.2	3.0	0.92
	77.47	18	800	1.6	2.2	0.92
	88.91	16	1020	1.8	2.5	0.92
	115.88	12	800	1.1	1.5	0.92

1400	21.40	65	537	4.0	5.5	0.92	1.68	28/250 - 24/200
	25.68	55	645	4.0	5.5	0.92	1.55	28/250 - 24/200
	33.16	42	832	4.0	5.5	0.92	1.18	28/250 - 24/200
	37.74	37	426	1.8	2.5	0.92	2.39	24/200 - 19/200
	40.44	35	1015	4.0	5.5	0.92	0.97	28/250 - 24/200
	48.74	29	551	1.8	2.5	0.92	1.82	24/200 - 19/200
	52.70	27	728	2.2	3.0	0.92	1.10	28/250 - 24/200
	59.44	24	671	1.8	2.5	0.92	1.49	24/200 - 19/200
	72.91	19	343	0.75	1.0	0.92	2.97	14/160
	77.47	18	729	1.50	2.0	0.92	1.10	24/200 - 19/200
	88.91	16	418	0.75	1.0	0.92	2.44	14/160
	115.88	12	545	0.75	1.0	0.92	1.47	14/160

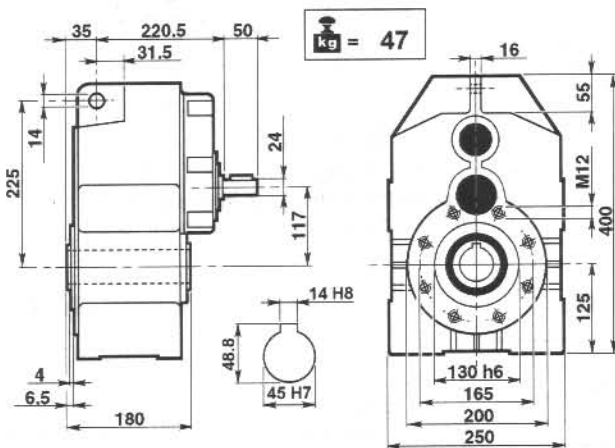
900	21.40	42	990	4.7	6.4	0.92
	25.68	35	1100	4.4	6.0	0.92
	33.16	27	1078	3.3	4.5	0.92
	37.74	24	1122	3.0	4.1	0.92
	40.44	22	1078	2.7	3.7	0.92
	48.74	18	1100	2.3	3.1	0.92
	52.70	17	880	1.7	2.3	0.92
	59.44	15	1100	1.9	2.6	0.92
	72.91	12	1122	1.6	2.1	0.92
	77.47	12	880	1.2	1.6	0.92
	88.91	10	1122	1.3	1.8	0.92
	115.88	8	880	0.8	1.1	0.92

900	21.40	42	460	2.2	3.0	0.92	2.15	28/250 - 24/200
	25.68	35	552	2.2	3.0	0.92	1.99	28/250 - 24/200
	33.16	27	712	2.2	3.0	0.92	1.51	28/250 - 24/200
	37.74	24	405	1.1	1.5	0.92	2.77	24/200 - 19/200
	40.44	22	869	2.2	3	0.92	1.24	28/250 - 24/200
	48.74	18	523	1.1	1.5	0.92	2.10	24/200 - 19/200
	52.70	17	926	1.8	2.5	0.92	0.95	28/250 - 24/200
	59.44	15	638	1.1	1.5	0.92	1.72	24/200 - 19/200
	72.91	12	391	0.55	0.75	0.92	2.87	14/160
	77.47	12	832	1.1	1.5	0.92	1.06	24/200 - 19/200
	88.91	10	477	0.55	0.75	0.92	2.35	14/160
	115.88	8	622	0.55	0.75	0.92	1.41	14/160

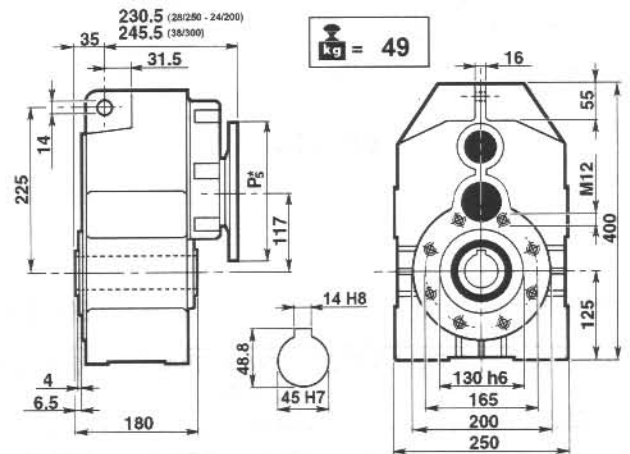
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 100/3



MPD 100/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
 P<sub>5</sub>\* : See PAM size for each single version  
 P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

## PD 125

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPD 125

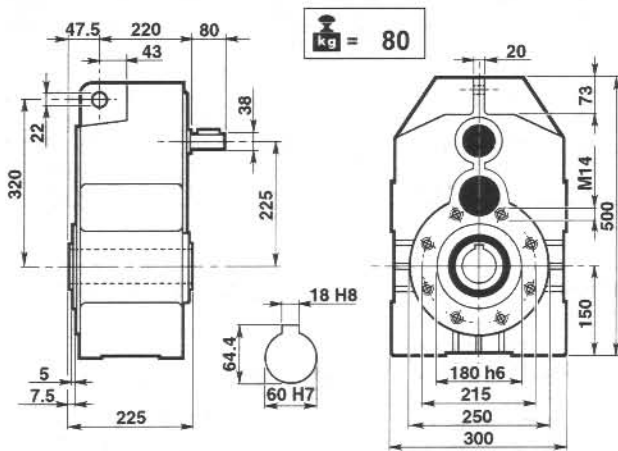
	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	10.48	267	1440	42.0	57.1	0.96	
	13.49	208	1440	32.6	44.3	0.96	
	16.28	172	1440	27.0	36.7	0.96	
	16.43	170	1305	24.3	33.0	0.96	
	18.60	151	1620	26.6	36.2	0.96	
	20.96	134	1530	22.3	30.3	0.96	
	25.52	110	1485	17.8	24.2	0.96	
	28.90	97	1305	13.8	18.8	0.96	
1400	10.48	134	1600	23.3	31.7	0.96	
	13.49	104	1600	18.1	24.6	0.96	
	16.28	86	1600	15.0	20.4	0.96	
	16.43	85	1450	13.5	18.3	0.96	
	18.60	75	1800	14.8	20.1	0.96	
	20.96	67	1700	12.4	16.8	0.96	
	25.52	55	1650	9.9	13.4	0.96	
	28.90	48	1450	7.7	10.4	0.96	
900	10.48	86	1760	16.5	22.4	0.96	
	13.49	67	1760	12.8	17.4	0.96	
	16.28	55	1760	10.6	14.4	0.96	
	16.43	55	1595	9.5	13.0	0.96	
	18.60	48	1980	10.5	14.2	0.96	
	20.96	43	1870	8.8	11.9	0.96	
	25.52	35	1815	7.0	9.5	0.96	
	28.90	31	1595	5.4	7.4	0.96	

	n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	10.48	267	635	18.5	25	0.96	2.27		42/350 - 38/300
	13.49	208	817	18.5	25	0.96	1.76		42/350 - 38/300
	16.28	172	986	18.5	25	0.96	1.46		42/350 - 38/300
	16.43	170	995	18.5	25	0.96	1.31		42/350 - 38/300
	18.60	151	1127	18.5	25	0.96	1.44		42/350 - 38/300
	20.96	134	1270	18.5	25	0.96	1.21		42/350 - 38/300
	25.52	110	1253	15	20	0.96	1.18		42/350 - 38/300
	28.90	97	1041	11	15	0.96	1.25		42/350 - 38/300
1400	10.48	134	1029	15	20	0.96	1.55		42/350 - 38/300
	13.49	104	1325	15	20	0.96	1.21		42/350 - 38/300
	16.28	86	1599	15	20	0.96	1.00		42/350 - 38/300
	16.43	85	1184	11	15	0.96	1.23		42/350 - 38/300
	18.60	75	1827	15	20	0.96	0.99		42/350 - 38/300
	20.96	67	1510	11	15	0.96	1.13		42/350 - 38/300
	25.52	55	1537	9.2	12.5	0.96	1.07		42/350 - 38/300
	28.90	48	1419	7.5	10	0.96	1.02		42/350 - 38/300
900	10.48	86	1174	11	15	0.96	1.50		42/350 - 38/300
	13.49	67	1512	11	15	0.96	1.16		42/350 - 38/300
	16.28	55	1824	11	15	0.96	0.96		42/350 - 38/300
	16.43	55	1255	7.5	10	0.96	1.27		42/350 - 38/300
	18.60	48	2084	11	15	0.96	0.95		42/350 - 38/300
	20.96	43	1601	7.5	10	0.96	1.17		42/350 - 38/300
	25.52	35	1430	5.5	7.5	0.96	1.27		42/350 - 38/300
	28.90	31	1619	5.5	7.5	0.96	0.99		42/350 - 38/300

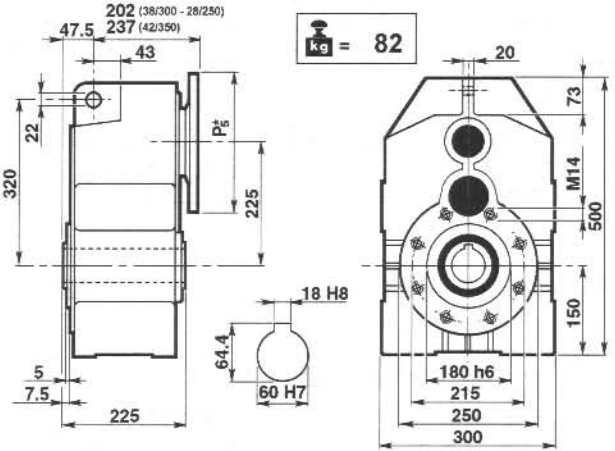
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 125



MPD 125

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Größe für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

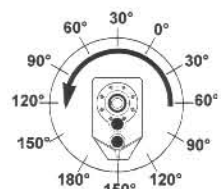
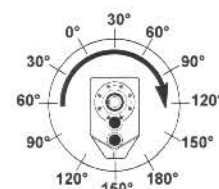
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
1400 min <sup>-1</sup>	PD 125	PD 125/3
	2100	1600

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PD 125 - PD 125/3							
min <sup>-1</sup>	0°	30°	60°	90°	120°	150°	180°
20	18837	19474	21133	23681	26607	28896	29799
40	14245	14889	16415	18963	21896	24310	25211
60	12096	12604	14133	16678	19607	22022	23041
80	10567	11078	12604	15152	18081	20626	21515
100	9548	10059	11456	13993	16926	19439	20496
120	8782	9167	10693	13115	16170	18715	19733
140	8148	8505	9921	12168	15003	17364	18309
160	7637	7972	9299	11405	14063	16275	17161

Rotazione oraria  
**Clockwise rotation**  
Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise rotation**  
Gegenuhrzeigersinn



## PD 125/3

### PRESTAZIONI

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	26.47	106	1890	22.8	30.9	0.92
	30.32	92	1395	14.7	19.9	0.92
	34.08	82	1800	16.8	22.9	0.92
	38.46	73	1656	13.7	18.7	0.92
	41.49	67	1620	12.4	16.9	0.92
	47.25	59	1395	9.4	12.8	0.92
	53.11	53	1818	10.9	14.8	0.92
	59.60	47	1890	10.1	13.7	0.92
	64.66	43	1638	8.1	11.0	0.92
	73.22	38	1395	6.1	8.3	0.92
	93.42	30	1665	5.7	7.7	0.92
	105.79	26	1395	4.2	5.7	0.92

1400	26.47	53	2100	12.6	17.2	0.92
	30.32	46	1550	8.1	11.1	0.92
	34.08	41	2000	9.4	12.7	0.92
	38.46	36	1840	7.6	10.4	0.92
	41.49	34	1800	6.9	9.4	0.92
	47.25	30	1550	5.2	7.1	0.92
	53.11	26	2020	6.1	8.2	0.92
	59.60	23	2100	5.6	7.6	0.92
	64.66	22	1820	4.5	6.1	0.92
	73.22	19	1550	3.4	4.6	0.92
	93.42	15	1850	3.2	4.3	0.92
	105.79	13	1550	2.3	3.2	0.92

900	26.47	34	2310	8.9	12.2	0.92
	30.32	30	1705	5.8	7.8	0.92
	34.08	26	2200	6.6	9.0	0.92
	38.46	23	2024	5.4	7.3	0.92
	41.49	22	1980	4.9	6.6	0.92
	47.25	19	1705	3.7	5.0	0.92
	53.11	17	2222	4.3	5.8	0.92
	59.60	15	2310	4.0	5.4	0.92
	64.66	14	2002	3.2	4.3	0.92
	73.22	12	1705	2.4	3.2	0.92
	93.42	10	2035	2.2	3.0	0.92
	105.79	9	1705	1.7	2.2	0.92

### PERFORMANCES

### LEISTUNG

## MPD 125/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	26.47	106	914	11	15	0.92	2.07	38/300
	30.32	92	1047	11	15	0.92	1.33	38/300
	34.08	82	1176	11	15	0.92	1.53	38/300
	38.46	73	664	5.5	7.5	0.92	2.49	19/200
	41.49	67	1432	11	15	0.92	1.13	38/300
	47.25	59	815	5.5	7.5	0.92	1.71	28/250
	53.11	53	917	5.5	7.5	0.92	1.98	28/250
	59.60	47	1029	5.5	7.5	0.92	1.84	19/200
	64.66	43	1116	5.5	7.5	0.92	1.47	28/250
	73.22	38	1264	5.5	7.5	0.92	1.10	28/250
	93.42	30	1612	5.5	7.5	0.92	1.03	19/200
	105.79	26	1328	4.0	7.5	0.92	1.05	19/200

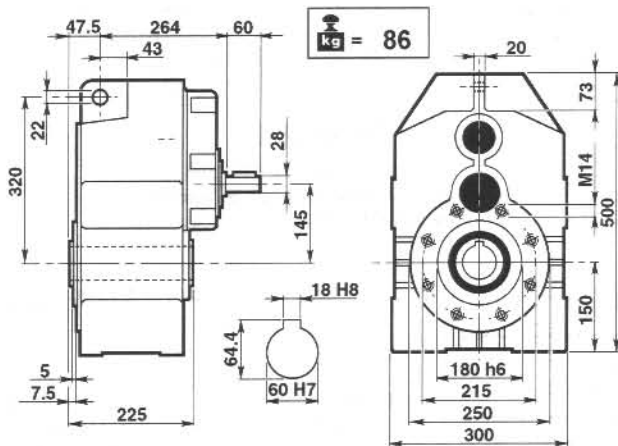
1400	26.47	53	1827	11	15	0.92	1.15	38/300
	30.32	46	1751	9.2	12.5	0.92	0.89	38/300
	34.08	41	1968	9.2	12.5	0.92	1.02	38/300
	38.46	36	965	4.0	5.5	0.92	1.91	19/200
	41.49	34	1432	5.5	7.48	0.92	1.26	38/300
	47.25	30	1188	4.0	5.5	0.92	1.31	28/250
	53.11	26	1333	4.0	5.5	0.92	1.52	28/250
	59.60	23	1496	4.0	5.5	0.92	1.40	19/200
	64.66	22	1623	4.0	5.5	0.92	1.12	28/250
	73.22	19	1379	3.0	4.0	0.92	1.12	28/250
	93.42	15	1759	3.0	4.0	0.92	1.05	19/200
	105.79	13	1461	2.2	3.0	0.92	1.06	19/200

900	26.47	34	1421	5.5	7.5	0.92	1.63	38/300
	30.32	30	1628	5.5	7.5	0.92	1.05	38/300
	34.08	26	1830	5.5	7.5	0.92	1.20	38/300
	38.46	23	826	2.2	3.0	0.92	2.45	19/200
	41.49	22	1620	4.0	5.5	0.92	1.22	38/300
	47.25	19	1015	2.2	3	0.92	1.68	28/250
	53.11	17	1141	2.2	3	0.92	1.95	28/250
	59.60	15	1280	2.2	3	0.92	1.80	19/200
	64.66	14	1389	2.2	3	0.92	1.44	28/250
	73.22	12	1573	2.2	3	0.92	1.08	28/250
	93.42	10	2006	2.2	3	0.92	1.01	19/200
	105.79	9	1549	1.5	2	0.92	1.10	19/200

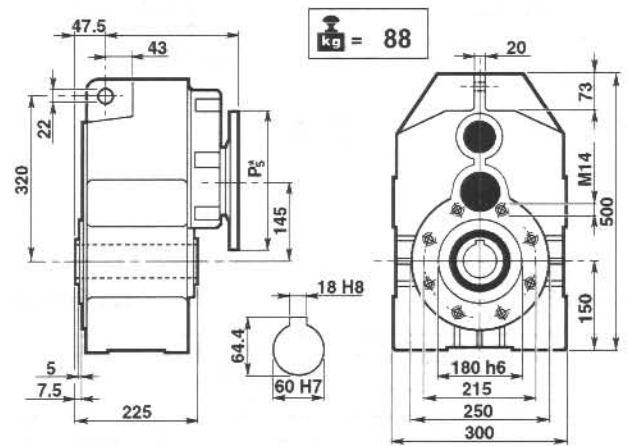
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 125/3



MPD 125/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung

## PD 160

### PRESTAZIONI

$n_1$	$i$	$n_2$	$M_2$ (Nm)	$kW_1$	$HP_1$	RD
2800	9.87	284	2700	83.5	113.6	0.96
	12.74	220	2880	69.0	93.9	0.96
	15.54	180	2880	56.6	77.0	0.96
	16.27	172	3150	59.1	80.4	0.96
	19.87	141	2610	40.1	54.6	0.96
	21.01	133	3150	45.8	62.3	0.96
	25.62	109	2880	34.3	46.7	0.96
	32.75	85	2700	25.2	34.2	0.96
1400	9.87	142	3000	46.4	63.1	0.96
	12.74	110	3200	38.4	52.2	0.96
	15.54	90	3200	31.4	42.8	0.96
	16.27	86	3500	32.8	44.7	0.96
	19.87	70	2900	22.3	30.3	0.96
	21.01	67	3500	25.4	34.6	0.96
	25.62	55	3200	19.1	25.9	0.96
	32.75	43	3000	14.0	19.0	0.96
900	9.87	91	3300	32.8	44.6	0.96
	12.74	71	3520	27.1	36.9	0.96
	15.54	58	3520	22.2	30.2	0.96
	16.27	55	3850	23.2	31.6	0.96
	19.87	45	3190	15.8	21.4	0.96
	21.01	43	3850	18.0	24.5	0.96
	25.62	35	3520	13.5	18.3	0.96
	32.75	27	3300	9.9	13.5	0.96

### PERFORMANCES

$n_1$	$i$	$n_2$	$M_2$ (Nm)	$kW_1$	$HP_1$	RD	$f_s$	P.A.M.
2800	9.87	284	808	25	34	0.96	3.34	48/350 - 42/350
	12.74	220	1043	25	34	0.96	2.76	48/350 - 42/350
	15.54	180	1272	25	34	0.96	2.26	48/350 - 42/350
	16.27	172	1332	25	34	0.96	2.37	48/350 - 42/350
	19.87	141	1627	25	34	0.96	1.60	48/350 - 42/350
	21.01	133	1720	25	34	0.96	1.83	48/350 - 42/350
	25.62	109	2097	25	34	0.96	1.37	48/350 - 42/350
	32.75	85	2681	25	34	0.96	1.01	48/350 - 42/350
1400	9.87	142	1422	22	30	0.96	2.11	48/350 - 42/350
	12.74	110	1835	22	30	0.96	1.74	48/350 - 42/350
	15.54	90	2239	22	30	0.96	1.43	48/350 - 42/350
	16.27	86	2344	22	30	0.96	1.49	48/350 - 42/350
	19.87	70	2863	22	30	0.96	1.01	48/350 - 42/350
	21.01	87	3027	22	30	0.96	1.16	48/350 - 42/350
	25.62	55	3104	18.5	25	0.96	1.03	48/350 - 42/350
	32.75	43	3217	15	20	0.96	0.93	48/350 - 42/350
900	9.87	91	1508	15	20	0.96	2.19	48/350 - 42/350
	12.74	71	1947	15	20	0.96	1.81	48/350 - 42/350
	15.54	58	2375	15	20	0.96	1.48	48/350 - 42/350
	16.27	55	2486	15	20	0.96	1.55	48/350 - 42/350
	19.87	45	3036	15	20	0.96	1.05	48/350 - 42/350
	21.01	43	3210	15	20	0.96	1.20	48/350 - 42/350
	25.62	35	2871	11	15	0.96	1.23	48/350 - 42/350
	32.75	27	2502	7.5	10	0.96	1.32	48/350 - 42/350

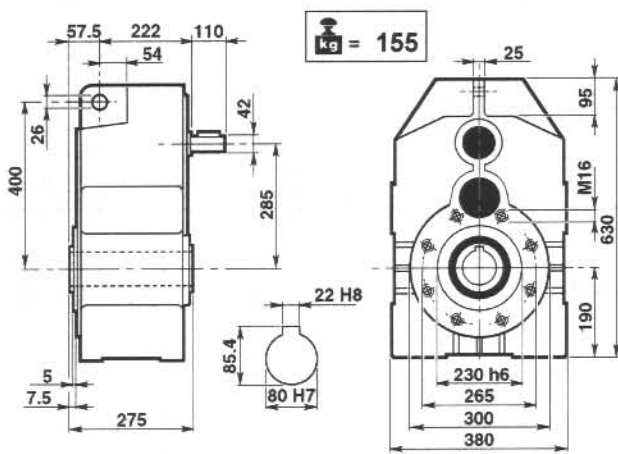
## MPD 160

### LEISTUNG

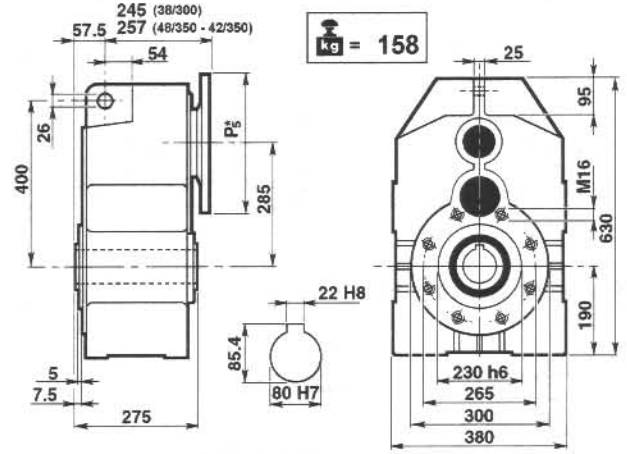
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 160



MPD 160

$P_5^*$ : Vedere i PAM per ogni singola versione  
 $P_5^*$ : See PAM size for each single version  
 $P_5^*$ : Siehe PAM Größe für jede Ausführung

### CARICHI RADIALI (N)

### OVERHUNG LOADS (N)

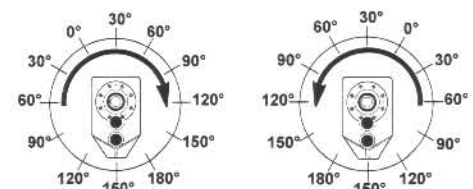
### RADIALE BELASTUNGEN (N)

ALBERO VELOCE / INPUT SHAFT / EINGANGSWELLE		
$1400 \text{ min}^{-1}$	PD 160	PD 160/3
	3200	2300

ALBERO LENTO / OUTPUT SHAFT / ABTRIEBSWELLE							
PD 160- PD 160/3							
$\text{min}^{-1}$	0°	30°	60°	90°	120°	150°	180°
20	26910	27820	30190	33830	38010	41280	42570
40	20350	21270	23450	27090	31280	34729	36015
60	17280	18005	20190	23825	28010	31460	32915
80	15095	15825	18005	21645	25830	29465	30735
100	13640	14370	16365	19990	24180	27770	29280
120	12545	13095	15275	18735	23100	26735	28190
140	11640	12150	14173	17383	21434	24806	26156
160	10910	11388	13284	16293	20089	23251	24516

Rotazione oraria  
**Clockwise**  
 rotation  
 Uhrzeigersinn

Rotazione antioraria  
**Anticlockwise**  
 rotation  
 Gegenuhrzeigersinn



## PD 160/3

### PRESTAZIONI

### PERFORMANCES

### LEISTUNG

## MPD 160/3

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD
2800	34.24	82	3240	30.2	41.0	0.92
	39.47	71	2988	24.1	32.8	0.92
	41.78	67	3240	24.7	33.6	0.92
	50.46	55	2880	18.2	24.7	0.92
	53.36	52	3258	19.5	26.5	0.92
	58.57	48	3015	16.4	22.3	0.92
	65.07	43	3258	16.0	21.7	0.92
	71.52	39	2880	12.8	17.5	0.92
	75.63	37	3285	13.8	18.8	0.92
	83.19	34	2880	11.0	15.0	0.92
	92.23	30	3285	11.4	15.4	0.92
117.9	24	2880	7.8	10.6	0.92	

n <sub>1</sub>	i	n <sub>2</sub>	M <sub>2</sub> (Nm)	kW <sub>1</sub>	HP <sub>1</sub>	RD	fs	P.A.M.
2800	34.24	82	2686	25	34	0.92	1.21	48/350 - 42/350
	39.47	71	1362	11	15	0.92	2.19	38/300
	41.78	67	3276	25	34	0.92	0.99	48/350 - 42/350
	50.46	55	1742	11	15	0.92	1.65	38/300
	53.36	52	1842	11	15	0.92	1.77	38/300
	58.57	48	1011	5.5	7.5	0.92	2.98	28/250
	65.07	43	2246	11	15	0.92	1.45	38/300
	71.52	39	1234	5.5	7.5	0.92	2.33	28/250
	75.63	37	1305	5.5	7.5	0.92	2.52	28/250
	83.19	34	2871	11	15	0.92	1.00	38/300
	92.23	30	1592	5.5	7.5	0.92	2.06	28/250
117.9	24	2035	5.5	7.5	0.92	1.42	28/250	

1400	34.24	41	3600	16.8	22.8	0.92
	39.47	35	3320	13.4	18.2	0.92
	41.78	34	3600	13.7	18.7	0.92
	50.46	28	3200	10.1	13.7	0.92
	53.36	26	3620	10.8	14.7	0.92
	58.57	24	3350	9.1	12.4	0.92
	65.07	22	3620	8.9	12.1	0.92
	71.52	20	3200	7.1	9.7	0.92
	75.63	19	3650	7.7	10.5	0.92
	83.19	17	3200	6.1	8.3	0.92
	92.23	15	3650	6.3	8.6	0.92
117.9	12	3200	4.3	5.9	0.92	

1400	34.24	41	3223	15	20	0.92	1.12	48/350 - 42/350
	39.47	35	2725	11	15	0.92	1.22	38/300
	41.78	34	3931	15	20	0.92	0.92	48/350 - 42/350
	50.46	28	2913	9.2	12.5	0.92	1.10	38/300
	53.36	26	3081	9.2	12.5	0.92	1.18	38/300
	58.57	24	1470	4.0	5.5	0.92	2.28	28/250
	65.07	22	3063	7.5	10	0.92	1.18	38/300
	71.52	20	1795	4.0	5.5	0.92	1.78	28/250
	75.63	19	1899	4.0	5.5	0.92	1.92	28/250
	83.19	17	2871	5.5	7.5	0.92	1.11	38/300
	92.23	15	2315	4.0	5.5	0.92	1.58	28/250
117.9	12	2960	4.0	5.5	0.92	1.08	28/250	

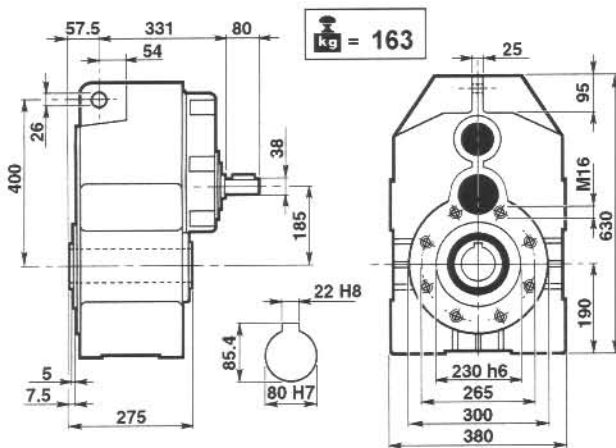
900	34.24	26	3960	11.8	16.1	0.92
	39.47	23	3652	9.5	12.9	0.92
	41.78	22	3960	9.7	13.2	0.92
	50.46	18	3520	7.1	9.7	0.92
	53.36	17	3982	7.6	10.4	0.92
	58.57	15	3685	6.4	8.8	0.92
	65.07	14	3982	6.3	8.5	0.92
	71.52	13	3520	5.0	6.9	0.92
	75.63	12	4015	5.4	7.4	0.92
	83.19	11	3520	4.3	5.9	0.92
	92.23	10	4015	4.5	6.1	0.92
117.9	8	3520	3.1	4.2	0.92	

900	34.24	26	3677	11	15	0.92	1.08	48/350 - 42/350
	39.47	23	2119	5.5	7.5	0.92	1.72	38/300
	41.78	22	3058	7.5	10	0.92	1.30	48/350 - 42/350
	50.46	18	2709	5.5	7.5	0.92	1.30	38/300
	53.36	17	2865	5.5	7.5	0.92	1.39	38/300
	58.57	15	1258	2.2	3.0	0.92	2.93	28/250
	65.07	14	3494	5.50	7.5	0.92	1.14	38/300
	71.52	13	1536	2.2	3.0	0.92	2.29	28/250
	75.63	12	1624	2.2	3.0	0.92	2.47	28/250
	83.19	11	3248	4.0	5.5	0.92	1.08	38/300
	92.23	10	1981	2.2	3.0	0.92	2.03	28/250
117.9	8	2532	2.2	3.0	0.92	1.39	28/250	

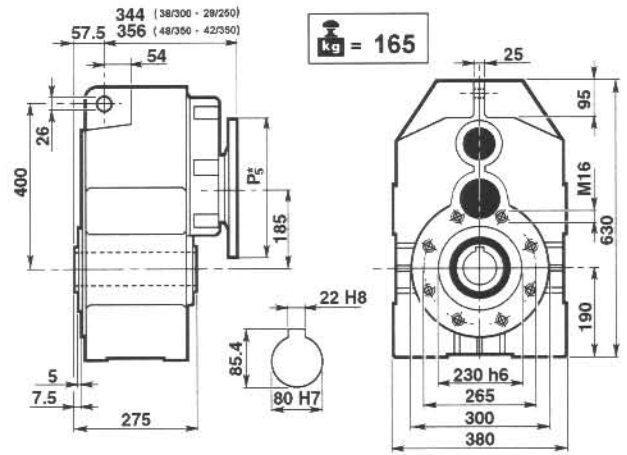
### DIMENSIONI D'INGOMBRO

### OVERALL DIMENSIONS

### ALLGEMEINE ABMESSUNGEN



PD 160/3



MPD 160/3

P<sub>5</sub>\* : Vedere i PAM per ogni singola versione  
P<sub>5</sub>\* : See PAM size for each single version  
P<sub>5</sub>\* : Siehe PAM Grösse für jede Ausführung





<p>ACCESSORI <b>ACCESSORIES</b> ZUBEHÖR</p>
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## FLANGE IN USCITA

Tutti i riduttori delle serie OT, PL, PD possono essere equipaggiati, su richiesta, con flange in uscita di dimensioni unificate (flange B5).

Si è optato per la forma quadrata sulle grandezze 63 - 80 - 100 e per la forma circolare sulle grandezze 125 e 160.

Si assume come standard la posizione destra guardando il riduttore dal lato dell'entrata nella posizione di montaggio B3.

Anche sulla grandezza OT 56 è di forma circolare.

## OUTPUT FLANGES

All OT, PL and PD gearboxes can be equipped, upon request, with output B5 flanges.

Square flanges have been provided on sizes 63 - 80 - 100 and round flanges are available on sizes 125 - 160.

Standard position is on the right looking at the gearbox from input side in mounting position B3.

Even on the size OT 56, it is round.

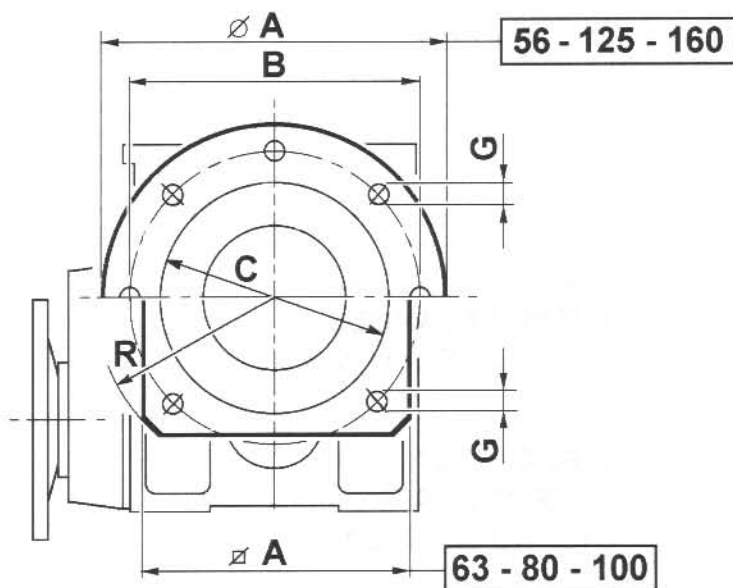
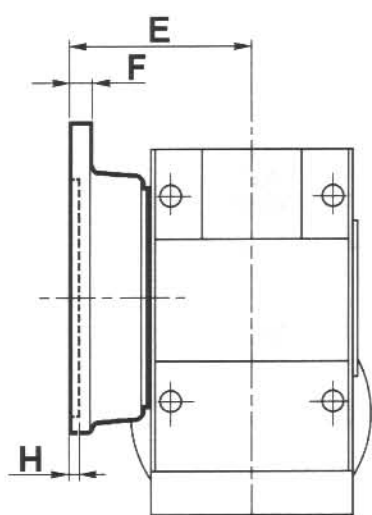
## ABTRIEBSFLANSCH

Auf Anfrage können alle OT - PL - PD Getriebe mit einem genormten Abtriebsflansch (B5) geliefert werden.

Für die Getriebe 63 - 80 und 100 sind rechteckige, für die Getriebe 125 und 160 sind runde Flansche vorgesehen.

In der Standardausführung liegt der Flansch bei der Einbaulage B3 (Eingangswelle unten, Abtriebswelle oben) auf die Eingangswelle gesehen rechts.

Auch auf der Größe OT 56 ist der Abtriebsflansch rund.



	○ A	□ A	B	C	E	F	G	H	R
56	160	-	130	110	80	11	4x11	5	-
63	-	150	165	130	113	12	4x11	5	100
80	-	190	215	180	132.5	14	4x14	6	125
100	-	240	265	230	150.5	16	4x16	5	150
125	350	-	300	250	174	18	8x16	6	-
160	450	-	400	350	195	20	8x18	7	-

## ALBERI LENTI

Tutti i riduttori delle serie OT e PL possono essere equipaggiati, su richiesta, con alberi lenti semplici o con alberi lenti doppi.

Per l'albero lento semplice è realizzata la versione con spallamento, mentre sul lato opposto all'uscita della parte sporgente, il canotto è chiuso da apposita rondella.

L'albero lento doppio è invece realizzato, per semplicità costruttiva, con unico diametro, restando la funzione di spallamento affidata all'organo utilizzatore che sarà fissato alle estremità libere dell'albero.

## OUTPUT SHAFTS

All OT and PL gearboxes can be equipped, on request, with single or double output shafts.

The single output shaft is accomplished in the version with shoulder, while on the opposite side the hollow shaft is closed by a suitable washer.

The double output shaft is, on the contrary, accomplished with a single diameter, for ease of manufacture. The function of shouldering is developed by the connection piece which will be placed on the free shaft ends.

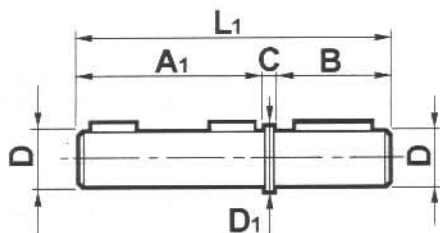
## STECKWELLEN

Alle OT und PL Getriebe können, auf Anfrage, mit einseitiger oder doppelseitiger Steckwelle ausgerüstet werden.

Die einseitige Ausführung ist mit einer Schulter ausgeführt, und die Hohlwelle ist bei einer Scheibe auf der gegenüberliegenden Seite geschlossen.

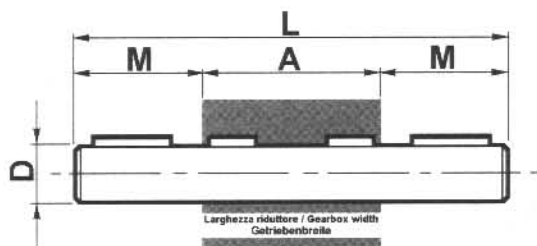
Die doppelseitige Steckwelle ist, für eine einfacheren Bau, mit einzeitigem Durchmesser ausgeführt, und die Schulterfunktion ist direkt von dem zusammenpassenden Maschinenteil entwickelt.

Albero lento semplice  
Single output shaft  
Einseitige Steckwelle



	D	B	D1	A1	C	L1
56	25	50	30	115	5	170
63	30	60	35	125	5	190
80	35	60	40	150	5	215
100	45	90	50	170	8	268
125	60	110	70	210	10	330
160	80	140	90	255	15	410

Albero lento doppio  
Double output shaft  
Doppelseitige Steckwelle



	D	A	L	M
56	25	120	220	50
63	30	135	255	60
80	35	160	280	60
100	45	180	360	90
125	60	225	445	110
160	80	275	555	140

## ALBERO VELOCE BISPORGENTE OT

Su richiesta, gli OT possono essere forniti con albero veloce bisporgente.

La seconda sporgenza è realizzata con un secondo pignone conico posto sul lato opposto all'entrata che accoppia con la stessa corona conica.

Questa soluzione potrà essere adottata anche per i riduttori con precoppia.

In caso di esigenze particolari, sarà possibile provvedere la seconda sporgenza sull'albero intermedio parallelo all'asse di uscita.

## DOUBLE EXTENDED INPUT SHAFT OT

Upon request, OT gearboxes can be supplied with double extended input shaft.

Second extension is achieved with a second bevel pinion on the opposite side of the input mating with the bevel gear.

Same solution can be adopted also for gearboxes with primary reduction.

When necessary, a second extension on the intermediate shaft parallel to the output axis could be provided.

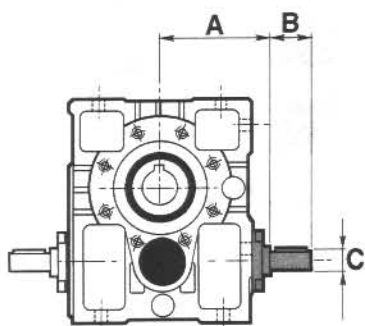
## WELLENENDEN IM EINGANG ("OT" BAUREIHE)

Auf Anfrage können die OT - Kegelstirnradgetriebe mit einem zweiten normalen Wellenende ausgeführt werden.

Das zweite Wellenende ist im Getriebeinnern als Kegelritzel ausgebildet und greift in den Kegelradteller ein.

Dies gilt ebenfalls für die Vorstufengetriebe.

In Sonderfällen kann das zweite Wellenende auch aus der mittleren Stufe, also parallel zu der Abtriebswelle, herausgeführt werden.



	A	B	C
OT 56	83	40	19
OT 63	95	40	19
OT 80	115	50	24
OT 100	140	60	28
OT 125	165	80	38
OT 160	210	110	42

## BRACCI DI REAZIONE

I riduttori della serie OT possono essere anche equipaggiati, come accessorio, con braccio di reazione per montaggio pendolare.

I bracci di reazione della SITI consentono di poter essere applicati sia sulla superficie normale di appoggio del riduttore nel montaggio B3, sia sul lato superiore o sulla superficie laterale opposta al lato di entrata, in virtù della dimensioni di foratura esattamente uguali su tutte queste facce.

Possono inoltre essere posti o nella posizione mostrata sulla figura, o nella posizione simmetricamente speculare ad essa rispetto all'asse verticale di figura.

Essi sono stati dimensionati per poter resistere, con elevati margini di sicurezza, a tutti i massimi carichi che possono essere applicati sull'uscita, così come ai massimi pesi dei riduttori montati con motore. Sono allo studio anche bracci di reazione per PL.

## TORQUE ARMS

Every gearbox of the OT line can be equipped with a torque arm, an optional item needed to mount the gearbox in a swinging position.

SITI torque arms can be applied on any side of OT gearboxes (upper, lower, etc.) thanks to the fact that all sides are identically drilled.

Moreover, torque arms can be mounted both according to the position shown in the sketch or the symmetrical one with respect to the vertical axis of figure.

All torque arms have been sized to bear heaviest loads on the output shaft as well as the biggest weights of all applicable motors.

Even torque arms for PL range are being studied.

## DREHMOMENTSTUTZEN

Die OT - Getriebe können mit dazugehöriger Drehmomentstütze in Aufsteckausführung montiert werden.

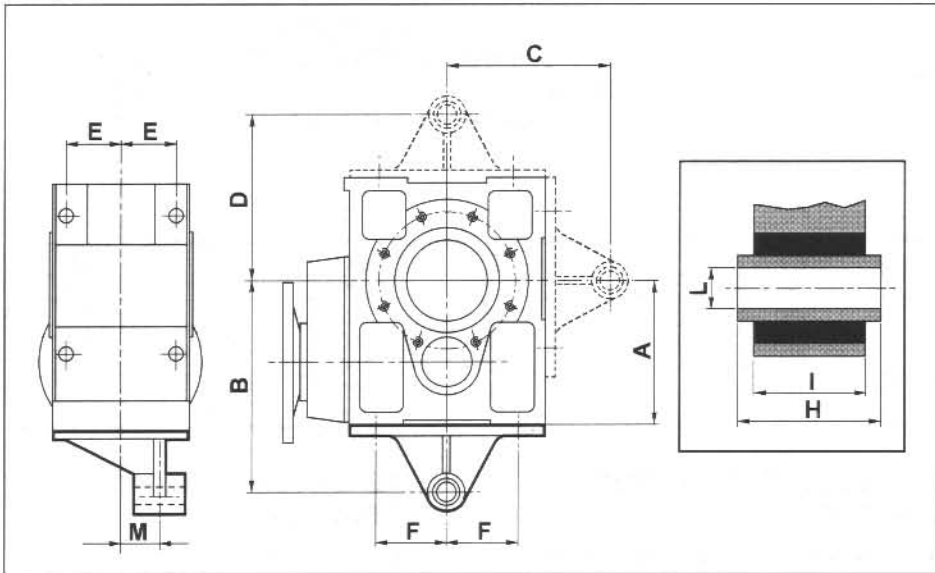
Die Drehmomentstütze ist auch als Zubehör lieferbar.

Sie kann an jeder bearbeiteten Getriebeseite, die der Befestigung des Getriebes dient, montiert werden.

Die Drehmomentstützen können sowohl wie in der Abbildung dargestellt, als auch spiegelbildlich, angebracht werden.

Sie sind so konzipiert, daß sie mit hoher Sicherheit die maximale Belastung im Ausgang des Getriebes und das höchste Gewicht des Getriebes bzw. des Getriebemotors aushalten können.

Drehmomentstützen für PL Baureihe sind in Vorbereitung.

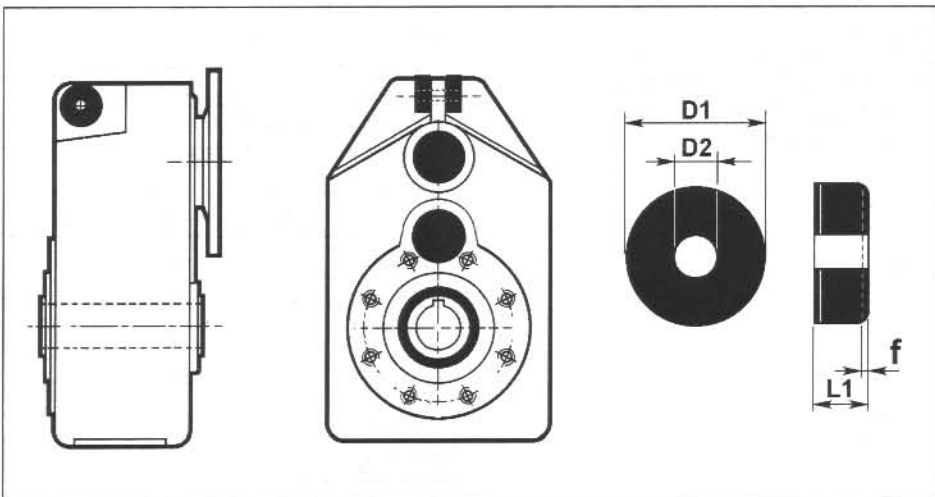


	63	80	100	125	160
<b>A</b>	120	155	180	220	280
<b>B</b>	168	219	257	308	415
<b>C</b>	128	164	202	238	325
<b>D</b>	128	164	202	238	325
<b>E</b>	46	55	65	80	100
<b>F</b>	50	67.5	85	100	125
<b>H</b>	60	60	80	100	100
<b>I</b>	52	52	70	90	90
<b>L</b>	15	18	22	25	30
<b>M</b>	31.5	44	45	55	80

## BRACCI DI REAZIONE PER RIDUTTORI PENDOLARI

## TORQUE ARMS FOR SHAFT MOUNTED

## DREHMOMENTSTÜTZEN FÜR FLACHGETRIEBE



	63	80	100	125	160
<b>D1</b>	30	40	40	60	80
<b>L1</b>	15	20	20	30	40
<b>D2</b>	11	12.5	12.5	21	25
<b>f min</b>	-	1.5	1.5	3	3.7
<b>f max</b>	-	2.3	2.3	4	6

## DISPOSITIVO ANTIRETRO

A richiesta, è possibile fornire i riduttori OT provvisti di dispositivo antiretro, per evitare il moto retrogrado, ovvero il fatto che il riduttore possa essere azionato attraverso l'albero lento dal carico resistente divenuto carico motore.

L'antiretro è provvisto per installazione sulla seconda sporgenza dell'albero veloce, a valle dei due cuscinetti conici, come appare dalla figura in sezione.

I cuscinetti antiretro sono stati ampiamente dimensionati in funzione della massima coppia permessa da ogni riduttore, e pertanto ne è consentito l'impiego con qualsiasi rapporto di riduzione, anche particolarmente veloce.

Dovrà essere sempre precisato in fase d'ordine per quale senso di rotazione deve essere consentita la rotazione libera.

## BACKSTOP DEVICE

On request it is possible to have backstop mounted on the OT line. Purpose of the backstop is to prevent the reversible motion, that is the fact that the gearbox might be operated through the output shaft by the resisting load so becoming driving load.

The backstop device is located on the input shaft downstream the two taper roller bearings as we can see from the sketch enclosed.

The irreversible bearing have been largely oversized according to the maximum torque allowed by each gearbox so that backstop devices are suitable for any reduction ratio.

The direction of free rotation must be specified when the order is placed.

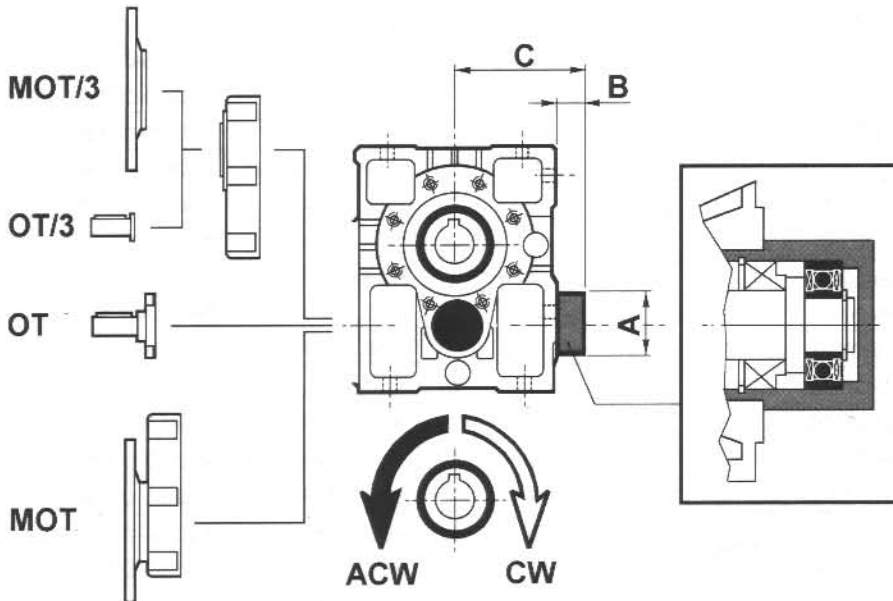
## RÜCKLAUFSPERRE

Die Rücklaufsperrung ist eine Einrichtung im Getriebe, um die Anlage nach dem Abschalten des Motors am Rückwärtslauf zu hindern.

Wie in dem Ausschnitt ersichtlich, ist die Anbringung der Rücklaufsperrung an der gegenüberliegenden Seite der Eingangswelle vorgesehen.

Die Rücklaufsperrung ist ausreichend dimensioniert und kann an jedem Getriebe sowohl mit hohen als auch mit niedrigen Untersetzungen angebaut werden.

Bei Bestellung muß der Drehsinn stets angegeben werden.

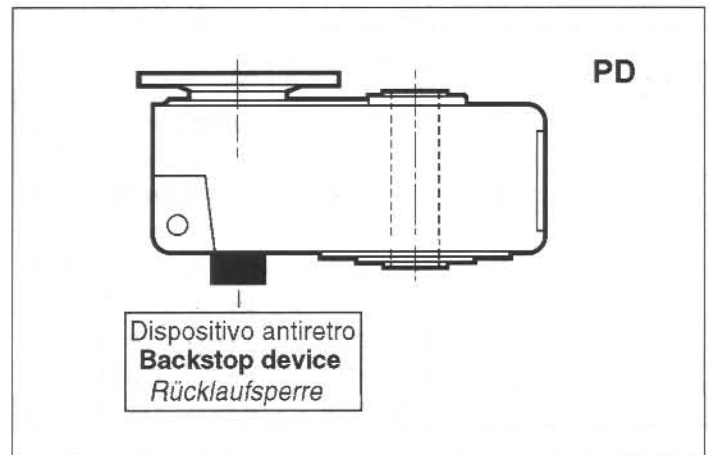
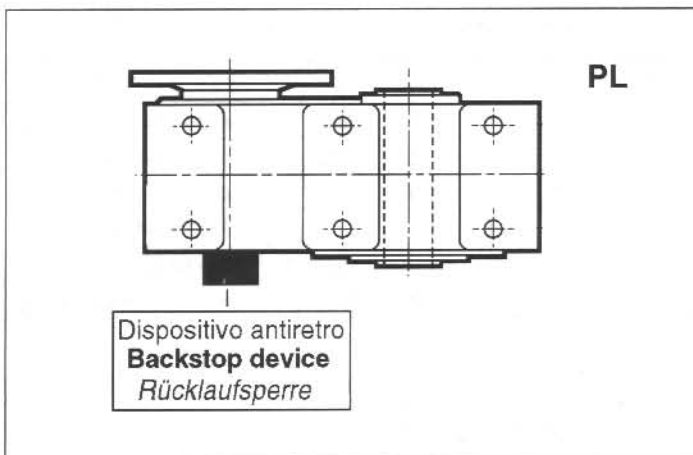


	A	B	C
63	62	39.6	119.6
80	72	41	141
100	78	42	167
125	74.9	49.6	199.6
160	74.9	54.6	244.6

Anche sui riduttori PL e PD il dispositivo antiretro può essere applicato sulla seconda sporgenza dell'albero veloce.

Even on PL and PD, the backstop device might be fitted on the second end of the input shaft.

Auch auf PL und PD, kann die Rücklaufsperrung auf der gegenüberliegenden Seite der Eingangswelle vorgesehen sein.



## MK - OT

PRESTAZIONI CON MOTORI 4 POLI  
**TECHNICAL DATA RELEVANT TO CONNECTION TO 4 POLES MOTORS**  
 TECHNISCHE DATEN BEZUGNEHMEND AUF 4 - POLIG MOTOREN

kW <sub>1</sub>	n <sub>2min</sub>	n <sub>2max</sub>	M <sub>2min</sub>	M <sub>2max</sub>	sf	TIPO-TYPE-TYP	i
HP <sub>1</sub>	RPM	RPM	Nm	Nm	*		

kW <sub>1</sub>	n <sub>2min</sub>	n <sub>2max</sub>	M <sub>2min</sub>	M <sub>2max</sub>	sf	TIPO-TYPE-TYP	i
HP <sub>1</sub>	RPM	RPM	Nm	Nm	*		

<b>0.37</b> 0.5	19	98	50	85	2.6	MKF5-OT63	10.16
	15	76	64	109	2	MKF5-OT63	13.08
	13	70	71	120	1.8	MKF5-OT63	14.38
	9	49	100	169	1.6	MKF5-OT63	20.31
	7	38	128	218	1.2	MKF5-OT63	26.15
	3	15	348	591	0.9	MKF5-OT80/3	67.99

<b>1.8</b> 2.5	20	105	228	298	3	MKF20-OT/100	9.53
	15	81	294	385	2.3	MKF20-OT/100	12.31
	13	67	358	469	1.9	MKF20-OT/100	15.00
	10	52	455	596	1.8	MKF20-OT/100	19.06
	8	41	588	769	1.3	MKF20-OT/100	24.62
	6	33	716	938	1.1	MKF20-OT/100	30.00
	3	16	1337	2101	1.1	MKF20-OT/125/3	64.42
	1	7	3062	4810	0.8	MKF20-OT/160/3	147.50
	1	6	3735	5866	0.7	MKF20-OT/160/3	179.90

<b>0.55</b> 0.75	20	105	70	149	3	MKF10-OT80	9.53
	15	81	90	192	2.3	MKF10-OT80	12.31
	13	67	109	234	1.9	MKF10-OT80	15.00
	10	52	139	298	1.8	MKF10-OT80	19.06
	8	41	180	385	1.3	MKF10-OT80	24.62
	6	33	219	469	2.1	MKF10-OT100	30.00
	5	24	299	641	1.4	MKF10-OT100	41.03
	4	20	265	781	1.1	MKF10-OT100	50.00
3	15	518	1109	0.9	MKF10-OT100/3	67.99	

<b>2.2</b> 3	20	105	278	496	1.8	MKF30-OT100	9.53
	15	81	294	641	1.4	MKF30-OT100	12.31
	13	67	358	781	1.1	MKF30-OT100	15.00
	10	50	478	1042	1.9	MKF30-OT125	20.00
	7	39	615	1342	1.4	MKF30-OT125	25.77
	6	32	749	1633	1.1	MKF30-OT125	31.36
	4	23	1025	2237	0.8	MKF30-OT125	42.95
	4	19	1248	2722	0.6	MKF30-OT125	52.27
	3	16	1903	3396	1.2	MKF30-OT160/3	62.49
	2	13	2319	4139	1	MKF30-OT160/3	76.15
	2	10	3171	5660	0.7	MKF30-OT160/3	104.14
	1	8	3865	6898	0.6	MKF30-OT160/3	126.92

<b>0.75</b> 1	20	105	95	149	3	MKF10-OT80	9.53
	15	81	122	192	2.3	MKF10-OT80	12.31
	13	67	149	234	1.9	MKF10-OT80	15.00
	10	52	190	298	1.8	MKF10-OT80	19.06
	8	41	245	385	1.3	MKF10-OT80	24.62
	6	33	298	469	2.1	MKF10-OT100	30.00
	5	24	408	641	1.4	MKF10-OT100	41.03
	4	20	497	781	1.1	MKF10-OT100	50.00
	3	15	706	1109	0.9	MKF10-OT100/3	67.99

<b>3</b> 4	19	100	398	750	2.2	MKF50-OT125	10.00
	15	78	513	966	1.7	MKF50-OT125	12.88
	12	64	624	1176	1.5	MKF50-OT125	15.68
	10	50	796	1500	1.3	MKF50-OT125	20.00
	7	39	1025	1933	1	MKF50-OT125	25.77
	6	32	1248	2352	0.8	MKF50-OT125	31.36
	4	23	1709	3221	0.5	MKF50-OT125	42.95
	4	19	2080	3920	0.4	MKF50-OT125	52.27
	3	16	2595	4891	0.9	MKF50-OT160/3	62.49
	2	13	3162	5960	0.7	MKF50-OT160/3	76.15
	2	10	4324	8150	0.5	MKF50-OT160/3	104.14
	1	8	5270	9933	0.4	MKF50-OT160/3	126.92

<b>1</b> 1.5	20	105	126	298	3	MKF20-OT100	9.53
	15	81	163	385	2.3	MKF20-OT100	12.31
	13	67	199	469	1.9	MKF20-OT100	15.00
	10	52	253	596	1.8	MKF20-OT100	19.06
	8	41	327	769	1.3	MKF20-OT100	24.62
	6	33	398	938	1.1	MKF20-OT100	30.00
	3	16	892	2101	1.1	MKF20-OT125/3	64.42
	2	13	1085	2557	0.8	MKF20-OT125/3	78.41

<b>4</b> 5.5	19	100	531	750	2.2	MKF50-OT125	10.00
	15	78	683	966	1.7	MKF50-OT125	12.88
	12	64	832	1176	1.5	MKF50-OT125	15.68
	10	50	1061	1500	1.3	MKF50-OT125	20.00
	7	39	1367	1933	1	MKF50-OT125	25.77
	5	24	2177	3077	1.4	MKF50-OT160	41.03
	4	20	2653	3750	1.1	MKF50-OT160	50.00

<b>1.5</b> 2	20	105	190	298	3	MKF20-OT100	9.53
	15	81	245	385	2.3	MKF20-OT100	12.31
	13	67	298	469	1.9	MKF20-OT100	15.00
	10	52	379	596	1.8	MKF20-OT100	19.06
	8	41	490	769	1.3	MKF20-OT100	24.62
	6	33	597	938	1.1	MKF20-OT100	30.00
	3	16	1337	2101	1.1	MKF20-OT125/3	64.42
	2	13	1628	2557	0.8	MKF20-OT125/3	78.41
	1	7	3062	4810	0.8	MKF20-OT160/3	147.50
	1	6	3735	5866	0.7	MKF20-OT160/3	179.90

\* Riferito alla coppia massima  
 \* Referred to max torque  
 \* In bezug auf max Drehmoment

## MK - OT

PRESTAZIONI CON MOTORI 4 POLI  
**TECHNICAL DATA RELEVANT TO CONNECTION TO 4 POLES MOTORS**  
 TECHNISCHE DATEN BEZUGNEHMEND AUF 4 - POLIG MOTOREN

kW <sub>1</sub>	n <sub>2</sub> min	n <sub>2</sub> max	M <sub>2</sub> min	M <sub>2</sub> max	sf	TIPO-TYPE-TYP	i
HP <sub>1</sub>	RPM	RPM	Nm	Nm	*		

<b>5.5</b> 7.5	19	100	730	1667	1	<b>MKF100-OT125</b>	10.00
	15	81	898	2052	1.6	<b>MKF100-OT160</b>	12.31
	13	67	1094	2500	1.4	<b>MKF100-OT160</b>	15.00
	10	52	1390	3177	1.3	<b>MKF100-OT160</b>	19.06
	8	41	1796	4103	0.9	<b>MKF100-OT160</b>	24.62
	6	33	2189	5000	0.7	<b>MKF100-OT160</b>	30.00

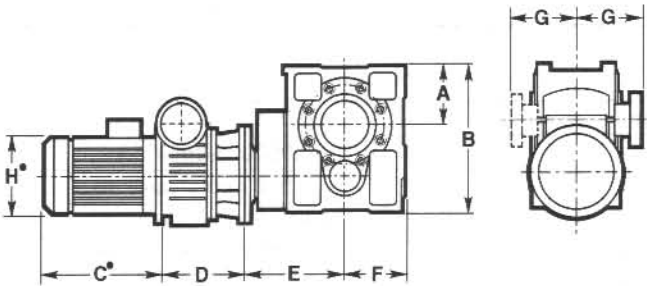
<b>7.5</b> 10	19	100	995	1667	1	<b>MKF100-OT125</b>	10.00
	15	81	1225	2052	1.6	<b>MKF100-OT160</b>	12.31
	13	67	1492	2500	1.4	<b>MKF100-OT160</b>	15.00
	10	52	1896	3177	1.3	<b>MKF100-OT160</b>	19.06
	8	41	2449	4103	0.9	<b>MKF100-OT160</b>	24.62
	6	33	2984	5000	0.7	<b>MKF100-OT160</b>	30.00

kW <sub>1</sub>	n <sub>2</sub> min	n <sub>2</sub> max	M <sub>2</sub> min	M <sub>2</sub> max	sf	TIPO-TYPE-TYP	i
HP <sub>1</sub>	RPM	RPM	Nm	Nm	*		

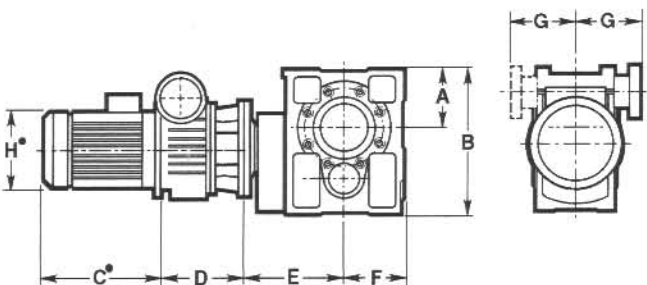
<b>9.2</b> 12.5	20	105	1163	1588	1.9	<b>MKF100-OT160</b>	9.53
	15	81	1502	2052	1.6	<b>MKF100-OT160</b>	12.31
	13	67	1830	2500	1.4	<b>MKF100-OT160</b>	15.00
	10	52	2326	3177	1.3	<b>MKF100-OT160</b>	19.06
	8	41	3004	4103	0.9	<b>MKF100-OT160</b>	24.62
	6	33	3661	5000	0.7	<b>MKF100-OT160</b>	30.00

<b>11</b> 15	20	105	1390	1588	1.9	<b>MKF100-OT160</b>	9.53
	15	81	1796	2052	1.6	<b>MKF100-OT160</b>	12.31
	13	67	2189	2500	1.4	<b>MKF100-OT160</b>	15.00
	10	52	2781	3177	1.3	<b>MKF100-OT160</b>	19.06
	8	41	3592	4103	0.9	<b>MKF100-OT160</b>	24.62
	6	33	4377	5000	0.7	<b>MKF100-OT160</b>	30.00

### DIMENSIONI D' INGOMBRO / OVERALL DIMENSIONS / ALLGEMEINE ABMESSUNGEN



	A	B	D	E	F	G
<b>MKF5-OT63</b>	120	200	159	145	80	110
<b>MKF10-OT80</b>	155	255	182	175	100	130
<b>MKF10-OT100</b>	180	305	182	200	125	130
<b>MKF20-OT100</b>	180	305	170	200	125	138
<b>MKF30-OT100</b>	180	305	293	200	125	158
<b>MKF30-OT125</b>	220	370	293	240	150	158
<b>MKF50-OT125</b>	220	370	293	240	150	158
<b>MKF50-OT160</b>	280	470	293	310	190	158
<b>MKF100-OT125</b>	220	370	348	240	150	195
<b>MKF100-OT160</b>	280	470	348	310	190	195



<b>MKF5-OT80/3</b>	155	255	159	175	100	110
<b>MKF10-OT100/3</b>	180	305	182	200	125	130
<b>MKF20-OT125/3</b>	220	370	170	240	150	138
<b>MKF20-OT160/3</b>	280	470	170	298	190	138
<b>MKF30-OT160/3</b>	280	470	293	298	190	158
<b>MKF50-OT160/3</b>	280	470	293	298	190	158

- C,H: Vedere tabelle motori
- C,H: See motor tables
- C,H: Siehe Motoren-Tabellen



Potenze	Power		Leistungen
1 Ft · Lb/min	= 0.0226 watt	1 watt	= 44.25 Ft · Lb/min.
1 Ft · Lb/sec.	= 0.001818 HP (PS)	1 HP (PS)	= 550 Ft · Lb/sec.
1 Ft · Lb/min.	= 0.030 · 10 <sup>-4</sup> HP (PS)	1 HP (PS)	= 33000 Ft · Lb/min.

Coppia	Torque		Drehmoment
1 Ft · Lb	= 0.1383 Kgm	1 Kgm	= 7.233 Lb · Ft

Momento d'inerzia	Inertia moment		Trägheitsmoment
(WR <sup>2</sup> ) 1 Lb · Ft <sup>2</sup>	= 0.0422 Kgm <sup>2</sup>	(J) 1 Kgm <sup>2</sup>	= 23.69 Lb · Ft <sup>2</sup>

Lunghezza	Length		Länge
1 mil	= 0.0254 mm	1 mm	= 39.37 mil
1 inch	= 2.54 cm	1 cm	= 0.3937 inch (In.)
1 foot	= 30.48 cm = 12 inches	1 cm	= 0.032 foot (Ft)
1 yard	= 91.439 cm = 3 feet	1 cm	= 0.01094 yard (Yd)
1 mile	= 1.609 Km = 1760 yards	1 Km	= 0.6214 mile

Pesi	Loads		Gewichte
1 grain	= 0.0648 g	1 gramm	= 15.5 grain
1 ounce	= 28.349 g	1 gramm	= 0.03527 ounce (Oz.)
1 pound	= 453.592 g	1 gramm	= 0.0022 pound (Lb)
1 pound	= 0.4536 Kg	1 Kilogramm	= 2.2 pound (Lb)
1 Cwt	= 50.802 Kg	1 Kilogramm	= 0.01968 Cwt.
1 ton (ingl)	= 1016.048 Kg	1 Kilogramm	= 0.00098 ton. (ingl.)
1 ton (U.S.A.)	= 907.185 Kg	1 Kilogramm	= 0.00111 ton. (U.S.A.)
1 pound	= 0.00893 Cwt.	1 hundredweight (Cwt.)	= 112 pound
1 ounce/gallon	= 6.235 g/litro	1 gramm/liter	= 0.1604 ounce/gallon

Superfici	Surface		Flächen
1 circular mil	= 5.067 x 10 <sup>4</sup> mm <sup>2</sup>	1 mm <sup>2</sup>	= 1974 circular mil
1 square inch	= 6.452 cm <sup>2</sup>	1 cm <sup>2</sup>	= 0.1550 square inch
1 square foot	= 929.03 cm <sup>2</sup>	1 cm <sup>2</sup>	= 0.00107 square foot
1 square yard	= 0.8361 m <sup>2</sup>	1 m <sup>2</sup>	= 1.195 square yard

Volumi	Volume		Volumen
1 cubic inch	= 16.387 cm <sup>3</sup>	1 cm <sup>2</sup>	= 0.06102 cubic inch
1 cubic foot	= 28316.084 cm <sup>3</sup>	1 cm <sup>3</sup>	= 0.000035 cubic foot
1 cubic yard	= 0.76455 m <sup>3</sup>	1 m <sup>3</sup>	= 1.307 cubic yard
1 cubic inch	= 0.01630 litro	1 liter	= 61.02 cubic inch
1 gallon (imperial)	= 4.541 litro	1 liter	= 0.2202 gallon (imperial)
1 pint	= 0.568	1 liter	= 1.77 pint
1 gallon (imperial)	= 1.997 gallon (U.S.A.)	1 gallon (U.S.A.)	= 0.8336 gallon (imperial)

## **CONDIZIONI GENERALI DI VENDITA**

- 1) GARANZIA** - La ns. garanzia ha la durata di anni uno dalla data di fatturazione del prodotto. Essa è limitata esclusivamente alla riparazione o alla sostituzione gratuita dei pezzi da noi riconosciuti come difettosi ed il reclamo non potrà mai dar luogo all' annullamento od alla riduzione delle ordinazioni da parte del committente e tanto meno alla corresponsione di indennizzi di sorta da parte ns. Il materiale da riparare in garanzia o comunque soggetto ad anomalie, sarà da noi ritirato solo se ci perverrà in porto franco e sarà reso al cliente in porto assegnato. La ns. garanzia decade se i pezzi resi come difettosi sono stati comunque manomessi o riparati. **Per manomissione si intende anche l'applicazione del motore fuori dall' ambito e dalla sede della ns. Società.** La ns. garanzia non copre danni o difetti dovuti ad agenti esterni, deficienza di manutenzione, sovraccarico, lubrificante inadatto, scelta inesatta del tipo, errore di montaggio e danni derivati in seguito a trasporto da parte del committente o trasportatore designato, essendo la spedizione sempre a spese e rischio del committente.
- 2) TRASPORTO** - Ad ogni effetto, anche di legge, la merce si ritiene accettata dal cliente (e consegnata) all' uscita dalla ns. sede o magazzini. Il trasporto della merce si intende sempre per conto, rischio e pericolo dell' acquirente anche se la merce è venduta franco destino e se il trasporto viene effettuato con mezzi della ditta venditrice e condotti da persona incaricata dalla medesima.
- 3) PREZZI** - La ns. Società si riserva di modificare in qualsiasi momento le proprie quotazioni (anche se confermate) se ciò si rendesse necessario in conseguenza a mutevoli condizioni di mercato o di produzione. Il listino prezzi si riferisce a merce franco ns. stabilimento, escluso imballo ed ogni eventuale altra spesa.
- 4) RECLAMI** - E' convenuto espressamente che eventuali reclami o contestazioni da farsi, a pena di nullità, sempre in forma scritta ed entro i termini di legge non danno comunque diritto all' acquirente di sospendere o ritardare i pagamenti. **Non si accettano addebiti per risarcimento di danni a cose e persone o ritardi di consegna.** Se entro 8 gg. dal ricevimento della ns. conferma d' ordine non ci perverrà alcuna contestazione, la stessa si intenderà accettata in tutte le sue parti.
- 5) INTERESSI** - Resta espressamente convenuto che gli interessi verranno fissati ed accettati, in ogni sede di ritardato pagamento, secondo le condizioni medie di tasso applicato dagli Istituti Bancari alla Società venditrice in quel momento.
- 6) RISERVA DI PROPRIETA'** - La merce viene venduta con riserva di proprietà finché non sarà effettuato il pagamento dell' intero prezzo, di eventuali interessi e accessori. Il rilascio di cambiali ed eventuali loro rinnovi, anche parziali, non potranno considerarsi quale novazione né quale pagamento definitivo del prezzo, se non a buon fine delle stesse, né potranno comunque pregiudicare la riserva di proprietà.
- 7) FORO COMPETENTE** - Si accetta espressamente che qualsiasi controversia, comunque nascente o discendente dalla vendita deve essere rimessa, anche in via derogativa, al giudizio dell' Autorità Giudiziaria di Bologna, quale unico Foro competente; ma la ditta venditrice potrà anche adire, a sua scelta, l' autorità giudiziaria del luogo, della residenza o domicilio dell' acquirente ovvero del luogo ove si trova l' oggetto della fornitura.
- 8) RESI - NON SI ACCETTANO RESTITUZIONI DI MATERIALI** se non precedentemente autorizzato per iscritto dalla ns. Società.
- 9) LISTINO** - Il listino attualmente in vigore annulla e sostituisce tutti i precedenti.

## **TERMS AND CONDITIONS OF SALE**

- 1) GUARANTEE** - *Our guarantee expires after one year from invoice date of the product. It only covers the replacement or repair free of charge of the defective units or parts provided that we admit that said faults or defects are to be ascribed to manufacturing processes. The customer does not have to feel entitled to cancel or reduce the outstanding orders because of defective material previously supplied. We will not be responsible for the payment of any charges related to goods to be replaced or repaired under guarantee. Returns of material will only be accepted if both back and forth transport charges will be covered by the customer. Our guarantee becomes completely null and void if units result altered or repaired. For alteration it is included also the application of the motor out of the ambit and circle of our Society. Our guarantee does not cover defects or faults which would be attributed to external factors, insufficient maintenance, overload, inadequate lubrication, unproper selection, mounting errors or shipping damages being shipment risks and expenses on behalf of the customer.*
- 2) SHIPMENT** - *Material is considered accepted by the customer once it leaves our warehouse. Shipment of goods is considered at buyer's risk even if shipment is effected free domicile of customer or through shipper's means of transports or forwarding agents appointed by the shipper.*
- 3) PRICES** - *Our Company reserve the right to modify their own quotations (although confirmed) if it is necessary because of the unconstant conditions of market and production. The price list refers to ex-works prices. Not including packing and any other additional costs.*
- 4) COMPLAINTS** - *Complaints for defective material must be effected in writing and within the legal terms or they will be considered null. In case of complaints the buyer is not anyhow entitled to stop or delay payments. Debit notes for refunds of damages to objects or persons as well as deliveries are not accepted. Any claims should be notified within 8 days from receipt of our order confirmation, otherwise it will be considered as accepted in all its parts.*
- 5) INTERESTS** - *It is understood that interests have to be agreed and accepted, in occasion of late payments, according to the current average terms, applied by the Shipper's banks.*
- 6) CONDITIONAL SALE** - *We reserve the right of property on goods sold until the whole payment has been effected together with the settlement of eventual interests and accessories. The grant of a bill or its eventual renewal cannot be considered as a definite payment of the price and will be subjected to collection.*
- 7) PLACE OF JURISDICTION** - *All disputes which may arise in relation to the sale shall be governed by the Italian Law and the Law Court of Bologna shall have the sole jurisdiction. The supplier reserve the right to choose, as place of jurisdiction, the purchaser's place of residence being the final destination of goods supplied.*
- 8) NO RETURNS OF MATERIAL WILL BE ACCEPTED** *unless previously authorised in writing from our Society.*
- 9) PRICE LIST** - *This current price list cancels and replaces all the previous ones*



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