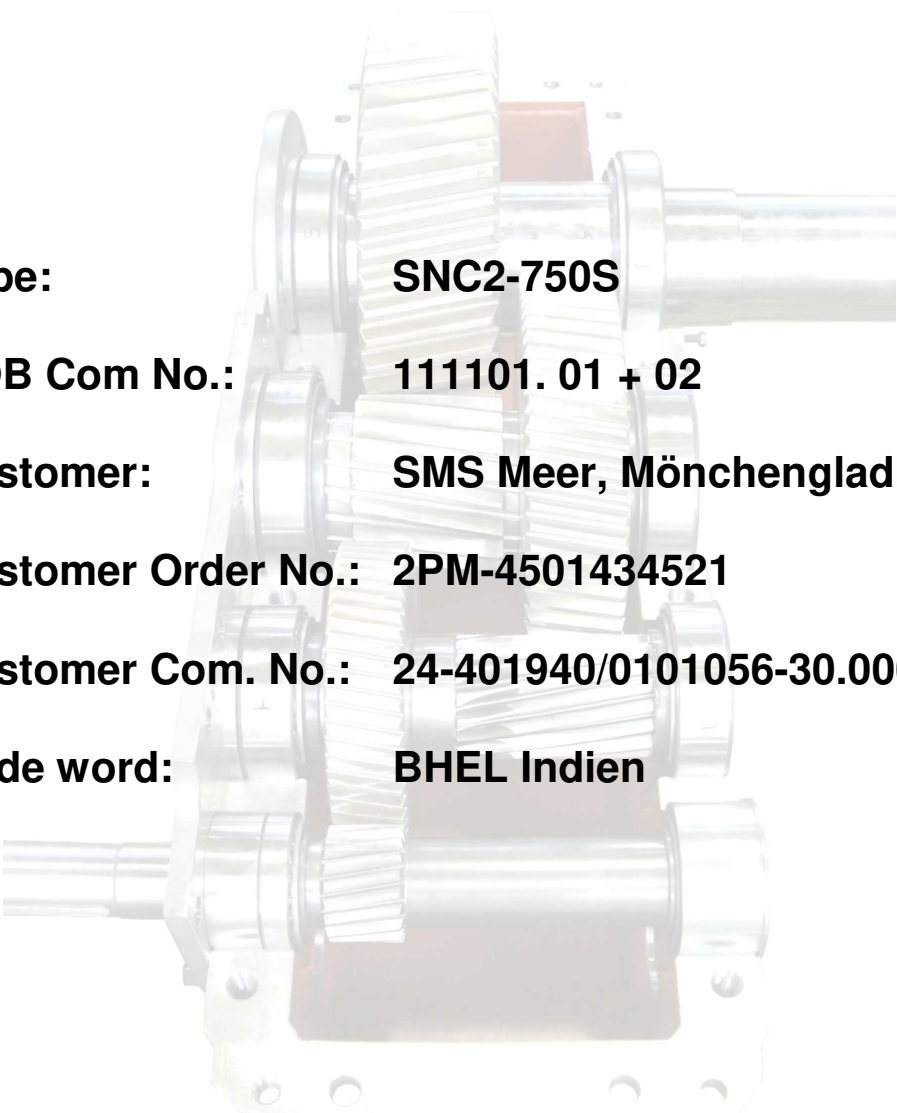


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SUPPLY OF CROSS ROLL PIERCER & ELONGATOR GEARBOX – 1900 kW

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Operating Manual



Type: SNC2-750S

DOB Com No.: 111101. 01 + 02

Customer: SMS Meer, Mönchengladbach

Customer Order No.: 2PM-4501434521

Customer Com. No.: 24-401940/0101056-30.000/0010

Code word: BHEL Indien

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1. General information

1.1 Introduction

This operating manual, hereafter called OM, is valid for the gear unit uniquely identified on the cover page, which is provided by Dr. W. Ostermann DOB-Getriebebau GmbH & Co. KG, hereafter called OSTERMANN. The corresponding OM is supplied with each delivery of a gear unit.

It must have been read, understood and observed by all persons assigned with assembly, operation, maintenance and service work.

The operating manual must always be kept within reach.

In addition, the regulations for accident prevention and the rules for safe/professional work in the country of use must be observed.

During the warranty period the gear unit may only be opened by employees of OSTERMANN. If this is not possible, the opening of the gear unit by others requires a written authorization from OSTERMANN, otherwise any further guarantee may not be assumed.

In any case, the gear unit may only be opened by skilled and qualified technicians competent in this type of work, with full knowledge and by reference to the assembly drawing.

In addition, we assume no liability for damages resulting from non-observance of the OM.

The operating instructions from the respective manufacturers must be observed for all attached parts, such as clutches, belt pulleys, components for oil supply, etc.



The **Attention** symbol indicates a warning whose non-observance can put personnel at risk.

2. Safety

2.1 Intended use

The gear unit may only be used under the conditions and power ratings agreed upon in the contract. The technical specifications can be found on the type plate and/or the dimension sheet of the gear unit. These specifications must be observed and adhered to without fail!

Any other use or any use differing from the technical specifications of the gear unit is considered inappropriate. Any damages resulting from such inappropriate use of the gear unit are the sole responsibility of the user/operator. The same applies to any unauthorized modifications to the gears. Intended use also includes observing and adhering to the following instructions:

- for safety,
- for installation,
- for operation,
- for maintenance/repairs

provided in this operating manual.

Moreover, a gear unit of the standard design is not suitable for use in potentially explosive atmospheres.



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2.2 General safety instructions

The gear unit has been designed and constructed according to the current state of the art and the generally recognized practices of safety engineering.

The gear unit may only be used as intended, with an awareness of safety and the risks involved, when in proper technical condition and in accordance with the OM!

Any faults, especially those that may affect safety, must be rectified immediately!

All work must be performed with care and with a main focus on "safety".

The gear unit may only be serviced and installed by persons that have fully read and understood the OM.

All work on the gear unit must be performed by authorized, expert personnel. Observe the minimum statutory age!

To prevent inappropriate action, especially in dangerous situations, the responsibilities for the different activities necessary for servicing and repairing the gears must be clearly specified and observed!

Work on the gear unit may only be performed when it is at a complete standstill. The drive assembly must be secured against unintended restarting. This can be done by locking the key-operated switch or by removing the fuse of the power supply. Information signs must be hung on main control device in order to indicate that work is being carried out on this gear unit.

Observe the information provided on the type plates, signs, rotational direction arrows, etc. They must be kept free of paint and dirt and replaced as necessary.

In order to prevent the toothed parts and the bearings from becoming damaged, do not perform any welding work on the gear unit. Furthermore, it may not be used as an earth point for welding!

In addition, the gear unit may not be cleaned with a high-pressure washer, unless all openings are protected from penetration of water, otherwise the shaft seal rings could be damaged and water can penetrate the air filter.



For protection against injuries, rotating and moving parts must be covered with an appropriate safety device to prevent reaching in.

If the removal of safety equipment should be necessary, it must be immediately re-installed and checked after completion of maintenance or repair work!



Individual parts and large assemblies must be fastened and secured using appropriated hoists and load-carrying equipment.

In the case of faults on the gear unit, it must be shut down immediately.

In the case of malfunction of the gear unit, appropriate measures must be taken to ensure that no additional property damage arises.

Maintenance may only be performed using equipment suitable for the corresponding work.

The instructions for service work must be observed for all repairs, maintenance and inspection of the gear unit.

2.3 Danger



The gear unit may have extremely high surface temperatures, depending on the operating conditions.

Caution! Risk of burns!

Hot oil escaping from the gears during oil changes may cause scalding.

2.4 Environmental protection

When changing the oil, make sure that the waste oil is collected in suitable containers and is stored separately from any rust-proofing agents.

Waste oil, rust-proofing agents, oil binding agents and any oil-soaked cleaning cloths must be disposed of in accordance with the applicable environmental regulations.

3. Delivery / Transport / Storage

3.1 Delivery

The gear unit is delivered ready for operation, however without oil filling.

Bearing points with lubricating nipples must be filled with grease.

Attached components, such as oil supply systems, clutches, fittings, etc. are packaged and delivered separately, if applicable.

The scope of delivery is listed on the accompanying delivery note.

The shipment must be inspected for completeness and any transport damage upon receipt.

If applicable, commissioning may not be carried out.

Transport damages and incomplete deliveries must be immediately reported to OSTERMANN in writing.

3.2 Transport



The transport of the gear unit must be carried out with lifting equipment appropriate for the weight and size.

Only the suspension points provided for transport may be used. These suspension points are identified with the corresponding symbol on the gear unit.

It must be ensured that any attachments, such as pipelines or fittings, are not damaged during transport.

3.3 Storage

The gear unit is provided with rust-proofing, both inside and out, for storage in dry, frost-proof halls for up to 15 months.

However, the internal and external rust-proofing must be checked and renewed as necessary for storage times longer than six months. Please contact OSTERMANN in case of questions in this regard.

The fitted breather must be replaced with a plug before storage.

The anti-corrosion protection must not be damaged before storage or during the storage period.

The storage location must be protected against weather influences. The temperature in the immediate area vicinity of the gear unit must lie between 0°C and +20°C.

In case this temperature range can not be met because of environmental conditions, it is absolutely necessary to contact OSTERMANN.

The gear unit must be stored in a location that is clean, free of vibrations and protected against harmful environmental influences (aggressive or condensing air, etc.).

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The paint coating must not be damaged!

The gear unit should be rotated every four weeks by hand or by the motor in jog mode in order to change the stationary position of the bearing.

4. Installation

4.1 General information

The installation of the gear unit must be carried out by qualified personnel in observance of the safety instructions.

The installation position, direction of rotation and connecting dimensions can be gathered from the corresponding dimension sheet.

The prescribed installation position may not be changed, otherwise sufficient lubrication cannot be guaranteed.

The foundation must be level and essentially vibration-free. The distortion of the installation surface may not exceed 0.1mm per 1m.

The gear unit must be fastened with fastening screws or nuts with a minimum strength class of 8.8 and tightened to the prescribed torque.

If external forces cause the housing to shift, the gear unit must also be fastened using weld-on blocks.

The gear unit and/or the input and output shafts must be precisely aligned with the drive-side and output-side machines. For this purpose, observe the operating manual of the clutch manufacturer. The input and output shafts may only be subjected to the loads specified on the dimension sheet and/or may only be operated with the operating weights of the clutches specified by OSTERMANN.

The oil supply system and monitoring devices must also be connected, if applicable. All protective and safety-relevant equipment must be installed and functional.

4.2 Fitting clutches

The shaft journals are provided anti-corrosion protection, which must be removed with a cleaning solvent, such as benzene. The shaft seal rings may not come into contact with the solvent, otherwise leakages can arise.

Clutches must be re-fit on the shaft using the threaded centering device on the shaft ends.

In the process, striking or any sort of impact is not permitted, as gear unit parts can be damaged.

If re-lubrication of the mounted clutch is necessary, the injection of lubricant may not take place too rapidly, because excessive axial forces resulting from hydraulic effects damage the gear unit.

When shrink-fitting the clutches, the shaft seal rings must be protected against heating up above 100°C.

The operating manual of the clutch manufacturer must be observed without fail for the installation of device.

Despite the maximum permissible amount of misalignment which the coupling supplier may state as acceptable, the difference to the perfect dynamic alignment conditions should be kept as low as possible to minimize vibrations, bearing loads and wear in the coupling device itself.



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5. Commissioning

5.1 Measures

Prior to commissioning, the gear unit must be completely assembled and ready for operation. After storage for longer than six months the gear unit must be checked for rusting both inside and out.

If the threaded holes for the air filter, oil level indicator and oil drain plug are filled with plugs at the time of delivery, they must be replaced with the appropriate accompanying components. The arrangement can be gathered from the dimension sheet.

The gear unit may never be operated without a properly installed air filter, otherwise the internal overpressure will damage the shaft seal rings.

If the gear unit is equipped with a return stop, the rotational direction of the motor must be observed without fail. The rotational direction is labelled on the gear unit with an arrow.

5.2 Filling with oil

The internal parts of the supplied gear unit are rust-proofed in such a way that it is **not** necessary to wash out the gear unit before filling with oil.

Prior to commissioning, the gear unit must be filled with oil through the thread of the air filter, the filling plug or the opening of the inspection hole cover. The marking on the oil dipstick and/or the oil sight glass is decisive for the oil quantity. The oil viscosity is specified on the type plate. The lubricants which we recommend can be gathered from the accompanying selection table (Appendix I.I.).

If the gear unit has an external oil supply system, a sufficient oil supply must be observed. The required flow rate (l/min) can be gathered from the type plate.

The oil level must be checked once more after first-time commissioning of the external oil supply system by means of the oil dipstick and/or oil sight glass.

After filling the gear unit with oil, the air filter or the filling plug must be reinstalled and/or the openings of the inspection hole cover must be closed again and the fastening screws re-tightened.

If the gear unit has an attached oil pump positioned above the oil level, it must be filled with oil prior to commissioning.

Attached oil pumps can run dry after extended downtimes. Therefore, the oil pressure must be monitored prior to each re-commissioning and oil must be filled in the pump as necessary. **The gear unit and the oil pump may not be operated for more than one minute without sufficient oil pressure.**

5.3 Start-up phase

If the gear unit has an external oil supply system, the motor pump must be started prior to starting the gear unit, whereby the rotational direction of the pump must be observed. The oil inlet temperature can be gathered from the dimension sheet.

The oil flow for the gearing and bearings must be checked through the inspection hole cover on the gear unit casing.

Only after the monitoring devices indicate that there is sufficient oil supply and all inspection hole covers have been closed may the gear unit be commissioned.

Oil pressure switches and manometers in the oil supply serve to monitor the oil pressure. The required oil pressure with the corresponding oil temperature can be gathered from the test report. If the oil pressure and oil temperature deviate from the test report, the cause must be investigated and rectified.



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After the start-up phase, the gear unit should **not** be run at full load for the first two hours. If the unit runs fault-free, the load can be increased to full load. In the process, the gear unit must be constantly monitored. We recommend checking the bearing temperatures each of the first 12 hours of operation under load. In the process, the bearing temperatures should not exceed 75°C at idle speed and should not exceed 85°C under load.

If the bearing temperature should increase above the permissible threshold and excessive vibrations or abnormal noises are noticeable, the gear unit must be shut down immediately in order to prevent damage.

After the first 12 hours of operation the interior of the gear unit should be inspected through the inspection hole cover while at a standstill.

6. Decommissioning

6.1 General information

When shutting off the gear unit with oil supply system, the motor pump must continue running until the gear unit stops so that the lubrication is provided until the gear unit is at a standstill.

Should the gear unit be decommissioned for an extended period of time, it must be rotated every four weeks by hand or by the motor in jog mode in order to change the stationary position of the bearing. The gear unit must also be checked every four weeks for the formation of rust, because the initial rust-proofing upon delivery is no longer present. In order to counteract rust formation, we recommend running the drive a few minutes each month in order to wet the gear unit interior with lubricant.

If the gear unit is decommissioned for more than six months, it must always be rust-proofed (see Point Storage).

The instructions under **Commissioning** must be performed for the recommissioning.



7. Maintenance / Service

7.1 General information

All maintenance and service work may only be performed by expert personnel with the gear unit at a standstill.

The drive motor must be secured against unintended switching-on.

For this purpose, information signs must be hung where the unit is switched on!

The maintenance work to be performed and the corresponding time intervals can be gathered from the following list.

Maintenance work Inspection	Interval	Comment
Check all screws of the gear unit for firm seating	every 6 months	
Check bearing points for unusual noises and increased temperatures	monthly	max. temperature 85°C
Check toothing for noise changes	daily	
Inspection of the tooth pattern and the tooth flanks	every 6 months	
Check gear unit for leak-tightness	monthly	
Check oil level	monthly	
Check oil temperature	monthly	
Check oil pressure	monthly	
Clean clogged oil injection nozzles	depending on degree of clogging	visual inspection through the inspection hole cover
Check functionality and leak-tightness of the oil supply system	monthly	
1st oil change	after 600 hours of operation	
Further oil changes: - With the use of mineral-based oils: - With the use of synthetic oils:	after max. 6000 hours of operation, or after 18 months at the latest after max. 18.000 hours of operation, or after 36 months at the latest	
Change oil filter	with each oil change	
Clean air filter	every 3 months	
Relubrication with grease of bearings and seals	after max. 3000 hours of operation, or after 6 months at the latest	
Relubrication with grease of spline shafts	every 4 weeks	
Inspection of the entire gear unit	every 6 months	



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7.2 Instructions for the oil change

The oil must be drained through the drain hole while at operational temperature immediately after shutting down the gear unit (**Caution: Risk of burns**). For this purpose, unscrew the oil drain plug and thoroughly clean it.

The casing must also be thoroughly cleaned of all residues, such as oil sludge and wear debris. For this purpose, the gear unit interior is rinsed with the oil type used for operation. Please contact OSTERMANN in case of questions in this regard.

After screwing the oil drain plug in again, fill the gear unit with fresh oil through the opening of the inspection hole cover or the threaded hole of the air filter (see Point Filling with oil).

It must be ensured that only oils from the same manufacturer are used. A mixture of different oil types is not permitted.

The mixture of mineral oils with synthetic oils, in particular, is not permitted.

When changing over from mineral oil to synthetic oil, the gear unit must first be thoroughly rinsed out with the new oil type.

7.3 Grease lubrication

If roller bearings, seals or splined shafts are lubricated with grease, they must be re-lubricated in regular intervals through the appropriate devices (such as grease nipples).

Excess grease must be removed and disposed carefully.

If different grease types are mixed together, the compatibility must be ensured.

7.3.1 Grease lubrication of labyrinth seals

If labyrinth seals on the input and output drives are filled with grease, they must be re-lubricated through the grease nipples. Inject grease through the nipple until it emerges between the labyrinth cover and the labyrinth ring. If labyrinth ring and cover are covered by attachment parts, such as caps dismount them before re-lubrication.

8. Faults / Spare parts

8.1 Fault

In case of a fault during the warranty period contact OSTERMANN within 24 hours in order to best determine the cause of the fault and the best possible remedy.

For this purpose please use our e-mail address: info@dob-getriebebau.de.

Faults necessitating a repair during the warranty period should **only** be rectified by OSTERMANN personnel or require written authorization for the repair by others. Otherwise OSTERMANN will assume no further warranty obligations.

In any case, the repair must only be made by skilled and qualified technicians competent in this type of work, with full knowledge and by reference to the assembly drawing.

OSTERMANN reserve the right to withdraw from the obligation of further warranty should they not be satisfied that any repair made by NON - OSTERMANN technicians has not been made in a correct way.

Any parts exchanged must be of an OSTERMANN approved OEM source.

If any parts have been exchanged the setting or re-setting of critical clearances, teeth contact or lubrication criteria must be checked, whereby the value must be inside the permission design ranges, otherwise it may cause damage to the gear unit.

8.2 Spare parts

Spare parts for each OSTERMANN gear unit must be ordered from us according to the parts list. We assume no warranty obligations for damages resulting from the use of spare parts not ordered from us.

I. Appendix

I.I Selection table of recommended lubricants:

Mineral-based gear oils

Viscosity ISO-VG DIN 51519 40°C [mm ² /s]	Designation DIN 51502							
460	CLP 460	ECO GEAR 460 M	Degol BG 460 Plus	Energol GR-XP 460	OPTIGEAR BM 460	Klüberoil GEM 1-460 N	Mobilgear XMP 460	Shell Omala F 460
320	CLP 320	ECO GEAR 320 M	Degol BG 320 Plus	Energol GR-XP 320	OPTIGEAR BM 320	Klüberoil GEM 1-320 N	Mobilgear XMP 320	Shell Omala F 320
220	CLP 220	ECO GEAR 220 M	Degol BG 220 Plus	Energol GR-XP 220	OPTIGEAR BM 220	Klüberoil GEM 1-220 N	Mobilgear XMP 220	Shell Omala F 220
150	CLP 150	ECO GEAR 150 M	Degol BG 150 Plus	Energol GR-XP 150	OPTIGEAR BM 150	Klüberoil GEM 1-150 N	Mobilgear XMP 150	Shell Omala F 150
100	CLP 100	ECO GEAR 100 M	Degol BG 100 Plus	Energol GR-XP 100	OPTIGEAR BM 100	Klüberoil GEM 1-100 N	Mobilgear XMP 100	Shell Omala F 100
68	CLP 68			Energol GR-XP 68	OPTIGEAR BM 68	Klüberoil GEM 1-68 N		
Roller bearing greases		Addilith EP 0	Aralub HL2	Energrease LS3	Molub-Alloy BRB 572	Klüberplex BEM 41-141	Mobilux EP 2	Shell Alvania G3

These oils conform with the minimum requirements according to DIN 51517 part 3

Operating temperature from -10°C to +90°C, short-term +110°C

Synthetic gear oils (poly-α-olefin)¹⁾

Viscosity ISO-VG DIN 51519 40°C [mm ² /s]	Designation DIN 51502							
460	PAO 460	ECO GEAR 460 S	Degol PAS 460	Energol EP-XF 460	OPTIGEAR Synth. X 460	Klübersynth GEM 4-460 N	Mobil SHC 634	Shell Omala HD 460
320	PAO 320	ECO GEAR 320 S	Degol PAS 320	Energol EP-XF 320	OPTIGEAR Synth. X 320	Klübersynth GEM 4-320 N	Mobil SHC 632	Shell Omala HD 320
220	PAO 220	ECO GEAR 220 S	Degol PAS 220	Energol EP-XF 220	OPTIGEAR Synth. X 220	Klübersynth GEM 4-220 N	Mobil SHC 630	Shell Omala HD 220
150	PAO 150	ECO GEAR 150 S	Degol PAS 150	Energol EP-XF 150	OPTIGEAR Synth. X 150	Klübersynth GEM 4-150 N	Mobil SHC 629	Shell Omala HD 150
100	PAO 100	ECO GEAR 100 S			OPTIGEAR Synth. X 100	Klübersynth GEM 4-100 N		
68	PAO 68					Klübersynth GEM 4-68 N		

These oils are highly resistant to aging

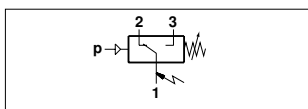
Operating temperature from -20°C to +100°C, short-term +110°C

1) With the use of synthetic oils, you must first consult with OSTERMANN



THIS LEAFLET SHOULD BE KEPT IN A SAFE PLACE FOR REFERENCE
DIESES MERKBLATT SOLLTE AN EINER SICHEREN STELLE AUFBEWAHRT WERDEN
CE DOCUMENT DOIT ETRE CONSERVE POUR ETRE UTILISE ULTERIEUREMENT LORS DES ENTRIENS
ESTE FOLLETO DEBE GUARDARSE EN LUGAR SEGURO PARA SER UTILIZADO DURANTE EL SERVICIO
QUESTE ISTRUZIONE DEVONO ESSERE CONSERVATE IN UN LUGO SEGURO PER RIFERIMENTO FUTURO

Operating manual pressure switch 18D
Bedienungsanleitung Druckschalter 18D
Mode d'emploi Pressostat 18D
Instrucciones para el servicio presostato 18D
Istruzioni d'uso pressostato 18D



Connector **DIN 43650**
Steckverbindung DIN 43650
Raccordement DIN 43650
Conector DIN 43650
Connettore DIN 43650

Switching function:
Microswitch SPDT
Terminals 1 - 3: Contacts close on rising pressure
Terminals 1 - 2: Contacts open on rising pressure

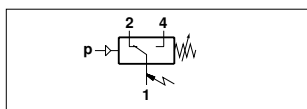
Schaltfunktion:
Ein einpoliger Mikroschalter (Umschalter)
Klemmen 1 - 3: bei steigendem Regelwert Kontakt schließend,
Klemmen 1 - 2: bei steigendem Regelwert Kontakt öffnend

Schéma de branchement du micro-contact (inverseur unipolaire)
Bornes 1 - 3: le contact ferme lorsque la pression monte
Bornes 1 - 2: le contact ouvre lorsque la pression monte

Funciones de conmutación:
Un microrruptor unipolar (2 contactos conmutadores)
Función 1 - 3: si sube el valor, regulador cierra
Función 1 - 2: si sube el valor, regulador abre

Funzione di commutazione:
Microinterruttore SPDT
Terminali 1 - 3: Chiusura dei contatti all'aumento della pressione
Terminali 1 - 2: Apertura dei contatti all'aumento della pressione

For detailed information please see the corresponding data sheet 5.11.021 + 5.11.020.
Weitere Details entnehmen Sie bitte der Schrift 75.11.021 + 5.11.020.
Pour obtenir plus d'information s.v.p. consulter documentation 5.11.021 + 5.11.020.
Para más información por favor consulte la hoja técnica 5.11.021 + 5.11.020.
Per informazioni più dettagliate consultare il catalogo specifico 5.11.021 + 5.11.020.



Connector **M 12 x 1**
Steckverbindung M 12 x 1
Raccordement M 12 x 1
Conector M 12 x 1
Connettore M 12 x 1

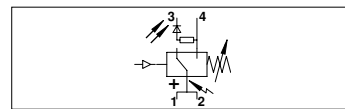
Switching function*:
Microswitch SPDT
Terminals 1 - 4: Contacts close on rising pressure
Terminals 1 - 2: Contacts open on rising pressure
*0880149 Switching function reversed

Schaltfunktion*:
Ein einpoliger Mikroschalter (Umschalter)
Klemmen 1 - 4: bei steigendem Regelwert Kontakt schließend,
Klemmen 1 - 2: bei steigendem Regelwert Kontakt öffnend
*0880149 Schaltfunktion umgekehrt

Schéma de branchement du micro-contact (inverseur unipolaire)*
Bornes 1 - 4: le contact ferme lorsque la pression monte
Bornes 1 - 2: le contact ouvre lorsque la pression monte
*0880149 Fonction de commutation inversée

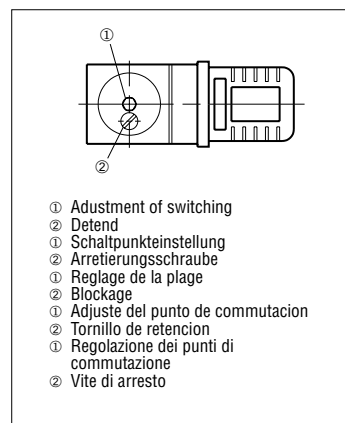
Funciones de conmutación*:
Un microrruptor unipolar (2 contactos conmutadores)
Función 1 - 4: si sube el valor, regulador cierra
Función 1 - 2: si sube el valor, regulador abre
*0880149 Funciones de conmutación invertido

Funzione di commutazione*:
Microinterruttore SPDT
Terminali 1 - 4: Chiusura dei contatti all'aumento della pressione
Terminali 1 - 2: Apertura dei contatti all'aumento della pressione
*0880149 Funzione di commutazione invertita



Connector **M 12 x 1**
Steckverbindung M 12 x 1
Raccordement M 12 x 1
Conector M 12 x 1
Connettore M 12 x 1

DESINA



SWITCH SELECTION

The switching points should normally be in about the middle of the adjustable range.
Do not exceed electrical ratings.
Torque: connector screw 0.7 Nm; screws for CETOP flange 5 Nm.
Electrical connection in accordance with local regulations. For outdoor installation sufficient protection has to be provided for. Critical conditions are: Aggressive atmosphere, drastic changes in temperature, solar radiation, salt bearing atmosphere.
In case of sudden pressure changes and/or pressure peaks with liquid fluids, install surge damper, Cat. No. 0574773.
With flanged design (peak-to-valley height of flanged surface $R_t \leq 12$ mm), O-ring 5 x 1.5, Cat. No. 0664098, is enclosed in the delivery. Load-bearing length of thread is min. 7.5 mm. Max. diameter of pressure port is 3 mm.

AUSWAHL UND EINBAUHINWEISE

Bereichsauswahl: optimal, wenn die Schaltpunkte in der Mitte des Schalt-druckbereiches liegen.
Elektrischer Anschluß: Verdrahtung gemäß VDE Vorschriften.
Anzugsdrehmoment: Steckdose 0,7 Nm; Schrauben CETOP Flansch 5 Nm.
Montage im Freien nur bei ausreichendem Schutz gegen kritische Umgebungsbedingungen (z.B. aggressive Atmosphäre, salzhaltige Atmosphäre, starke Temperaturschwankungen).
Beim Auftreten schlagartiger Druckänderungen und Druckspitzen bei flüssigen Fluiden ist eine Dämpfungsvorkammer vorzubauen. Best.-Nr. 0574773.
Bei seitlichem Flansch (Rauttiefe der Flanschfläche $R_t \leq 12$ mm) gehört der O-Ring 5 x 1,5, Bestell-Nr. 0664098 zum Lieferumfang.
Tragende Gewindelänge min. 7,5 mm. Max. Durchmesser der Druckanschlußbohrung 3 mm.

CHOIX ET INSTRUCTIONS DE MONTAGE

Les points de fonctionnement doivent normalement se situer aux environs du milieu de la plage de réglage.
Le raccordement électrique doit être conforme aux normes en vigueur.
Couple de serrage: Connecteur 0,7 Nm; Vis de flasque CETOP 5 Nm.
En cas de montage à l'extérieur, il faut prévoir une protection suffisante contre d'éventuelles mauvaises conditions ambiantes (par exemple : atmosphères agressives, salines, avec de fortes variations de températures etc...).
Dans le cas de liquides avec des pointes de pression ou en cas de variations très rapides de la pression, il faut monter une vis d'amortissement 0574773.
Dans le cas d'exécution flasquable (aspérité du plan de pose bride $R_t \leq 12$ mm), le joint O-Ring 5 x 1,5, 0664098, est inclus dans la livraison.

SELECCION DE LOS VALORES DE FUNCIONAMIENTO

Se recomienda ajustar los valores de funcionamiento alrededor de la mitad del campo de ajuste.
Las conexiones eléctricas se han de efectuar según normas VDE.
Par de apriete: Conector 0,7 Nm; Tornillos de brida CETOP 5 Nm.
Si se montan al aire libre, los aparatos deben protegerse suficientemente contra las condiciones ambientales (atmósfera agresiva, temperaturas extremas o variaciones fuertes de estas, etc.)
En caso de líquidos con puntas de presión hay que anteponer al presostato la cámara de amortiguación no. 0574773.
En la versión con brida (profundidad de rugosidad de la brida $R_t \leq 12$ mm) el O-ring 5 x 1,5, no. 0664098, es parte del envío. Longitud de la rosca soportante min. 5mm. Diámetro de perforación de la conexión de presión 3mm.

SCelta DEL PRESSOSTATO

I punti di commutazione dovrebbero venire a trovarsi normalmente al centro del campo di regolazione. Non superare mai i limiti elettrici.
Coppia di serraggio: Connettore 0,7 Nm; Vite di flangia CETOP 5 Nm.
Eseguire i collegamenti elettrici nel rispetto delle norme. Provvedere adeguata protezione in caso di impiego all'esterno. Condizioni critiche sono: Ambiente aggressivo forti variazioni di temperatura, esposizione al sole, atmosfera salina.
In caso di variazioni repentine o picchi di pressione con fluidi liquidi, installare un soppressore di picchi. Codice 0574773. Per le versioni a flangia (finitura superficiale $R \leq 12$ mm) è compreso nella fornitura un OR x 1,5, codice 0664098. La lunghezza di filettatura utile deve essere minimo 7,5 mm. Il diametro massimo della connessione della pressione è 3 mm.

SETTING OF SWITCHING POINTS

Adjust either upper or the lower switching point. The opposite one is then determined by the fixed switching pressure difference. Use pressure gauge for adjustment.
The switching points may be set even during operation. Proceed as follows:

- Loosen stop screw.
- Adjust switching points by means of a 5 mm hexagon spanner.
Depending on the sense of rotation the switching points move upwards (clockwise rotation) or downwards (counter-clockwise rotation).
- Retighten stop screw.

EINSTELLUNG DER SCHALTPUNKTE

Eingestellt wird entweder der obere Schaltpunkt p_{ob} oder der untere Schaltpunkt p_{un} . Der andere ergibt sich jeweils aus der festliegenden Schaltdruckdifferenz. Zum Einstellen der Schaltpunkte ist ein Manometer zu Hilfe zu nehmen.

Die Schaltpunkte können auch während des Betriebes wie folgt eingestellt oder verändert werden:
1. Arretierungsschraube lösen (wenn vorhanden).
2. Schaltpunkteinstellung mit einem 5 mm, bzw. 6 mm - Sechskantschraubendreher vornehmen.
Erhöhung oder Reduzierung der Schaltpunkte erfolgt durch Rechts- bzw. Linksdrehen des Gewindestückes.
3. Arretierungsschraube festdrehen (wenn vorhanden).

RÉGLAGE DES POINTS DE FONCTIONNEMENT

Il convient de régler le point de fonctionnement supérieur p_{ob} ou inférieur p_{un} . Le second point est alors déterminé par la fourchette de retour fixe. L'utilisation d'un manomètre est recommandée pour un réglage précis. Il est possible de régler ou de modifier le réglage pendant le fonctionnement de l'appareil.

- Dévisser le bouton moleté.
- Régler le point de fonctionnement avec une clé 6-pans de 5 mm. Le déplacement vers le haut ou le bas du point de fonctionnement est obtenu en tournant le bouton de réglage vers la droite ou vers la gauche.
- Revisser le bouton moleté.

AJUSTE DE LOS VALORES DE FUNCIONAMIENTO

Se ha de ajustar o el punto de conmutación superior p_{vo} o el punto de conmutación inferior. El otro será dado por el propio diferencial fijo. Para un ajuste preciso se recomienda el uso de un manómetro. Los puntos de conmutación también se pueden ajustar durante el funcionamiento:

- Soltar el tornillo de retención.
- Ajustar los puntos de conmutación con un macho hexagonal de 5mm.
- Fijar el ajuste con el tornillo de retención.

IMPOSTAZIONE DEI PUNTI DI COMMUTAZIONE

Impostare il punto superiore o quello inferiore. L'altro punto viene determinato automaticamente dallo scarto differenziale fisso. Usare un manometro per fare la regolazione. I punti di commutazione possono essere impostati anche in servizio.

Procedere come segue:
1. Allentare la vite di arresto.
2. Impostare i punti di commutazione usando una chiave esagonale da 5 mm. A seconda del senso di rotazione i punti si muovono in su (rotazione in senso orario) o in giù (rotazione in senso antiorario).
3. Serrare nuovamente la vite di arresto.
4. Istruzioni per l'uso del Pressostato tipo 18 D.



**NORGREN
HERION**

IMI Norgren-Herion Fluidtronic GmbH & Co. KG
Stuttgarter Straße 120, D-70736 Fellbach
Telefon: +49 (0)7 11 - 52 09-0, / Fax: +49 (0)07 11 - 52 09-6 14

Distributed by:

Pressure Gauges

Examples:



Model 213.40

Model 432.36,
Overpressure safety
up to 400 bar

Model 732.14,
Overpressure safety
up to 400 bar



Notes in accordance with Pressure Equipment Directive 97/23/EC

- The pressure gauges are "pressure accessories" in accordance with Article 1, Paragraph 2.1.4
- The volume of the pressure bearing housings of WIKA pressure gauges is < 0.1 L
- The pressure gauges carry CE marking for Fluid Group 1G in accordance with Annex 2, Table 1 when their permissible working pressure exceeds 200 bar

Pressure gauges that do not carry the CE mark are manufactured in accordance with Article 3, Paragraph 3 "Sound engineering practice".

Applied standards

- EN 837-1 Bourdon tube pressure gauges, dimensions, metrology, requirements and testing
- EN 837-2 Selection and installation recommendations for pressure gauges
- EN 837-3 Diaphragm and capsule pressure gauges, dimensions, metrology, requirements and testing

Specifications: see data sheet on www.wika.de

Subject to technical modifications.

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WIKAL Alexander Wiegand SE & Co. KG

Alexander-Wiegand-Straße 30
63911 Klingenberg • Germany
Tel. (+49) 93 72/132-0
Fax (+49) 93 72/132-406
E-Mail info@wika.de

File No. 1467881/2025/SSTP-HMEMC

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1. Safety



WARNING!

Before installation, commissioning and operation, ensure that the appropriate pressure gauge has been selected in terms of measuring range, design and suitable wetted material (corrosion) for the specific measuring conditions. In order to guarantee the measuring accuracy and long-term stability specified, the corresponding load limits must be observed.

Only qualified persons authorised by the plant manager are permitted to install, maintain and service the pressure gauges.

For hazardous media such as oxygen, acetylene, flammable or toxic gases or liquids, and refrigeration plants, compressors, etc., in addition to all standard regulations, the appropriate existing codes or regulations must also be followed.

After an external fire, pressure media can leak out, particularly at soft solder joints. All gauges must be checked and, if necessary, replaced before recommissioning the plant.

Non-observance of the respective regulations can result in serious injury and/or damage to equipment.

2. Mechanical connection

In accordance with the general technical regulations for pressure gauges (e.g. EN 837-2). When screwing the gauges in the force required for this must not be applied through the case or terminal box, rather only through the spanner flats provided for this purpose (using a suitable tool).

Mounting with spanner



Correct sealing of pressure gauge connections with parallel threads ① must be made using suitable sealing rings, sealing washers or WIKA profile seals. The sealing of tapered threads (e.g. NPT threads) is made by providing the thread ② with additional sealing material such as, for example, PTFE tape (EN 837-2).



The torque depends on the seal used. Connecting the gauge using a clamp socket or a union nut is recommended, so that it is easier to orientate the gauge correctly. When a blow-out

device is fitted to a pressure gauge, it must be protected against being blocked by debris and dirt. With safety pressure gauges (see dial symbol Ⓢ) it must be ensured that the free space behind the blow-out back is at least 15 mm.



After mounting, set the compensating valve (if available) from CLOSE to OPEN.

With models 4 and 7, do not open the flange mounting screws.

Requirements for the installation point

If the line to the gauge is not sufficiently rigid for vibration-free mounting, a pipe-support bracket should be used to secure it (possibly via a flexible capillary). If vibration cannot be prevented through suitable installation, liquid-filled gauges should be used. The instruments should be protected against coarse dirt and wide fluctuations in ambient temperature.

3. Permissible ambient and operating temperatures

When mounting the pressure gauge it must be ensured that, taking into consideration the influence of convection and heat radiation, no deviation above or below the permissible ambient and medium temperatures can occur. The influence of temperature on the display accuracy must be observed.

4. Storage

The pressure gauge should be kept in its original packing until installation. The gauge should be protected from external damage during storage. Storage temperature range: -40 ... +70 °C. Protect the gauges from humidity and dust.

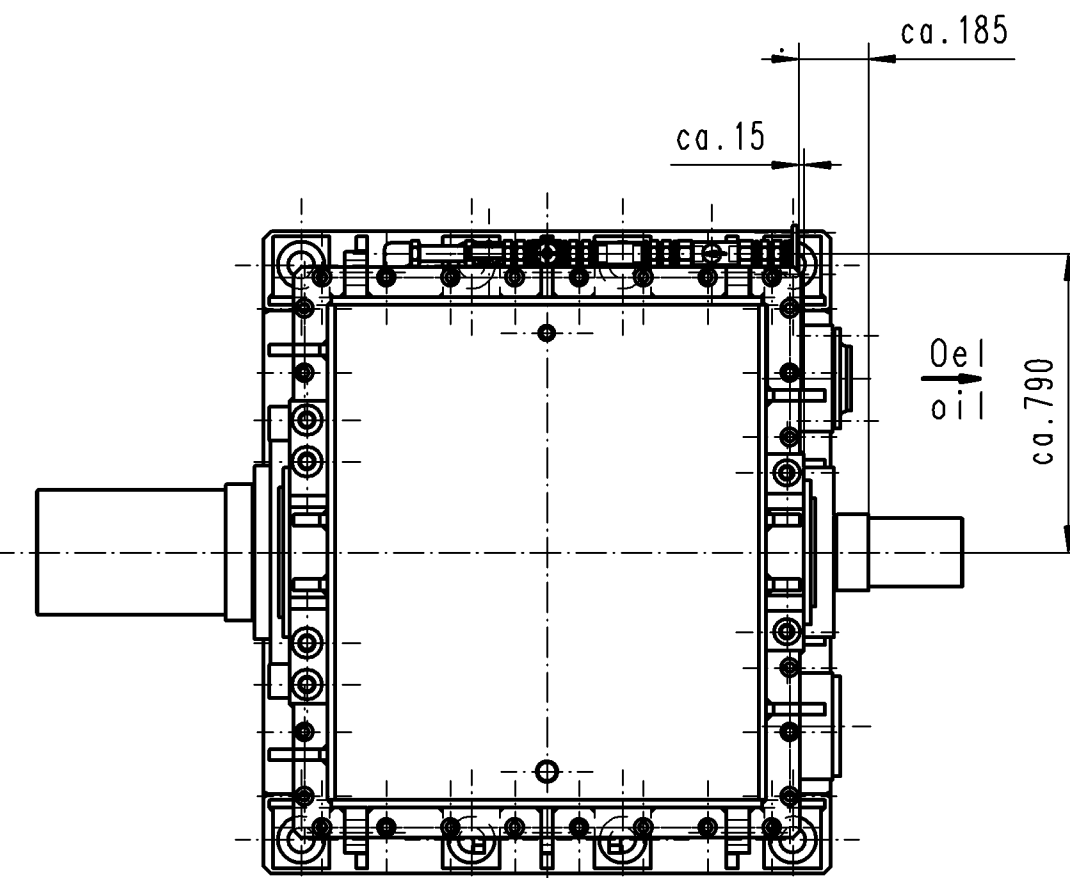
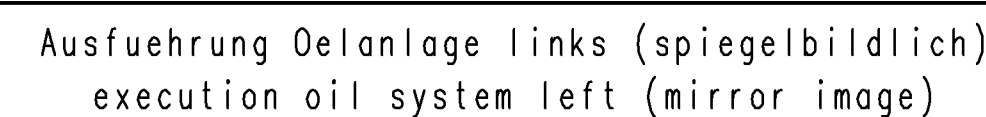
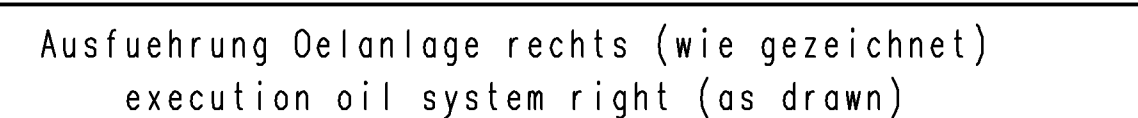
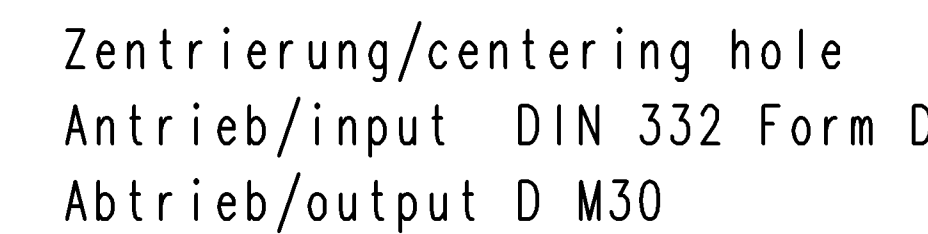
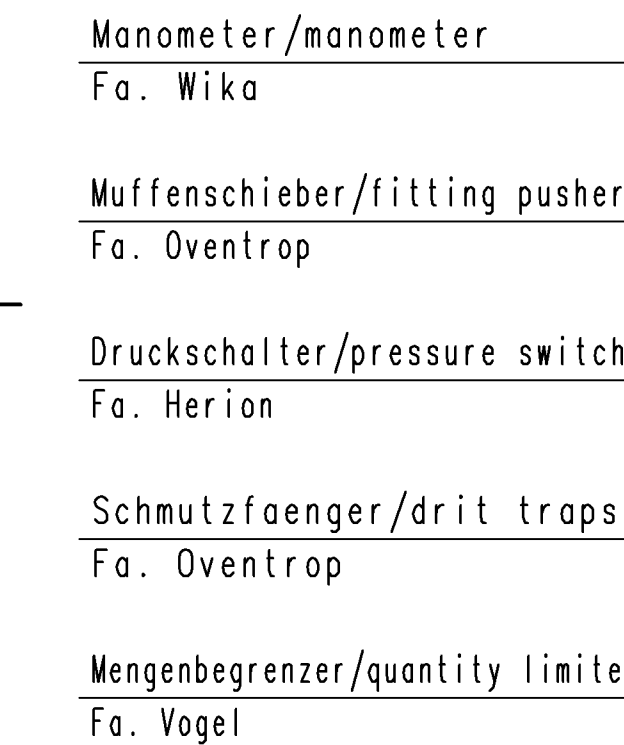
5. Maintenance / Repairs

The instruments are maintenance-free. Checks should be carried out on a regular basis to ensure the measuring accuracy of the pressure gauge. The checks or recalibrations must be carried out by qualified skilled personnel with the appropriate equipment. When dismounting, close the compensating valve (if available).



WARNING!

Residual media in dismantled pressure gauges can result in a risk to personnel, the environment and equipment. Take sufficient precautionary measures.



P _{nenn}	=	1900	kW;	P _{max.}	=	3800	kW
P _{eff}	=	1130,5	kW				
n ₁	=	750	1/min				
T _{1 nenn}	=	24.200	Nm;	T _{1 max.}	=	48.400	Nm
i _{soll}	=	8,427					
i _{ist}	=	8,3543					
n ₂	=	89,77	1/min				
T _{2 nenn}	=	202.200	Nm;	T _{2 max.}	=	404.400	Nm
F _a	=	±350.000	N;	F _r	=	50.000	N

Zentralschmierung/central lubrication	
Öl/oil	= CLP 220
Ölmenge/oil quantity	= 100 l/min
Öldruck/oil pressure	= ca. 2 bar
Ölzulauftemperatur/oil input temperature	= ca. 40 °C

Pos.- item -	Stueck - piece 1+1	Dispo Nr.- dispo no. 64490	Auftrags Nr.- order no. 111101.01 / 02	Bauart - type SNC2-750S
Masstab - scale 1:10		Gewicht - weight [kg] 1		Benennung - designation Massblatt SNC 2-750 S
Werkstoff - material St		Modell - pattern		
Nicht tolerierte Masse DIN 7168 m		2011 Beord. Gepr.	Datum 14.06. now	Zeichnungs Nr.- drawing no. 7148M2
				Blatt-page 1 von-of 1
				von Zeichn.- from drawing: Ort - place : 11110101/NOVWNOEZ
Index/ender.- modifc.	Datum	Name	 Dr. W. Oettermann DDB-Getriebebau DDB D-42213 Wuppertal	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 1 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
1	1	HOUSING	64491A	St 52-3		1	
2	4	INSPECTION COVER Gr. 9	WN 108	RSt 37-2	6,8	2	
3	4	FLAT PACKING Gr. 9	WN 110	Tesnid Uni blau	0,1	2	
4							
5							
6	1	LABYRINTH COVER ø590/380x59	64550	St 52-3	58,0	1	
7	1	SEALING COVER ø450x37	64551	St 52-3 St 37-2	20,0	1	
8	1	SEALING COVER ø380x40	64552	St 52-3 St 37-2	15,0	1	
9	1	SEALING COVER ø450/210x88	64553	St 52-3	65,0	1	
10	1	LABYRINTH RING ø464/330x56	64554	St 52-3	28,0	1	
11							
12							
13	1	DISTANCE SLEEVE ø360/330x72	64555 DIN 2448	St 52 Rohr/ TUBE 368x22,2	9,2	1	
14	1	DISTANCE SLEEVE ø320/300x9,5	64556 DIN 2448	St 52 Rohr/TUBE 330x17,5	0,7	1	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 2 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
15	1	DISTANCE SLEEVE ø300/275x15	64557 DIN 2448	St 52 Rohr/ TUBE 305x17,5	1,3	1	
16	1	DISTANCE SLEEVE ø235/200x10	64558 DIN 2448	St 52 Rohr/ TUBE 244,5x25	0,9	1	
17	1	DISTANCE SLEEVE ø200/180x85	64559 DIN 2448	St 52 Rohr/ TUBE 203x25	3,9	1	
18	1	INTERNAL RING IR 180x195x45 EGS		St	1,6	3	Fa. INA
19							
20							
21	1	DISK ø400/223x32	64560	42 CrMo 4	21,0	1	
22							
23							
24	1	END DISK ø300x40	64561	42 CrMo 4	19,0	1	
25	1	END DISK ø260x22	077.240.01	St 60	9,1	1	
26	1	END DISK ø240x22	077.220.00	St 60	7,8	1	
27	1	END DISK ø190/184x22	WN 117 ø170	St 60	5,3	2	
28							

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 3 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
29							
30	1	EXIT SHAFT ø376x1443	64562	42 CrMo 4	925,0	1	
31	1	SPUR WHEEL ø1157/345x275 No of teeth-61, Aprox width-280 mm	64563 750-3,050	18CrNiMo7-	1720,0	1	
32	1	PINION SHAFT ø415x1323 No of teeth-20 Aprox width-280 mm	64564A 750-3,050	18CrNiMo7-	848,0	1	
33	1	SPUR WHEEL ø795/280x185 No of teeth-63, Aprox width-190 mm	64565 530-2,739	18CrNiMo7-	580,0	1	
34	1	INPUT PINION SHAFT ø313x895 No of teeth-23, Aprox width-190 mm	64566 530-2,739	18CrNiMo7-	245,0	1	
35							
36							
37	1	SPHERICAL ROLLER BEA 23972 CC/W33	DIN 635	St with steel cage	46,0	3	
38	1	SPHERICAL ROLLER BEA 23960 CC/W33	DIN 635	St with steel cage	39,5	3	
39	2	THRUST-SPERICAL BEA. 29344 E	DIN 616	St with steel cage	33,5	3	
40	1	SPHERICAL ROLLER BEA 23048 CC/W33	DIN 635	St with steel cage	33,5	3	
41	1	MAT.TAPER ROLLER BEA 32944/DF	DIN 720	St with steel cage	21,0	3	
42	1	SPHERICAL ROLLER BEA 23034 CC/W33	DIN 635	St with steel cage	13,0	3	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 4 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
43	1	MAT.TAPER ROLLER BEA 30240 J2/DF	DIN 720	St with steel cage	52,0	3	
44	1	LOCK NUTS KM 40 M200x3	DIN 981	St	3,4	3	
45	1	LOCKING WASHER MB 40 ø262/200x2,5	DIN 5406	St	0,3	3	
46	12	PRESSURE SPRING Da= 15, d= ø2,8 Lo= 38	Bestell-Nr. 1954	F-St	0,1	3	Fa. Uwe Hopp
47							
48							
49	2	ROTARY SHAFT SEAL B2 360x400x20	DIN 3760	72 NBR 902	1,1	3	
50	2	ROTARY SHAFT SEAL B2 195x230x15	DIN 3760	72 NBR 902	0,4	3	
51	1	V-WASHERS CR 404502 ø418/405x10,5	style VR3	NBR	0,2	3	Fa. SKF
52							
53							
54	1	FLANGE C 150x168,3	DIN 2631 PN 6	RSt 37-2	5,2	3	
55	1	BLIND FLANGE B 150	DIN 2527 PN 6	USt 37-1	7,5	3	
56	2	THREAD FLANGE C 40	DIN 2566 PN 16	USt 37-1	1,8	3	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 5 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
57	2	FLAT PACKING DN 150	DIN 2690 PN 6	ItOe	0,1	3	
58	1	FLAT PACKING DN 40	DIN 2690 PN 40	ItOe	0,1	3	
59	1	FLOW LIMITER Typ : SP/SMB 6/2/0/1 without electr. Sign	270 aler for	St	5,8	3	Fa. Voqe
		kabel installation for 100 l/min, CLP order no.: 24-2706	connection 220 and 40° -1270	G 1 1/4 C			
60	1	MUD FLAP DN 40, PN 16, G1 1/2 strainer inset 0,6	art.-no. 112 00 12 100 mesh	Rq per cm ²	1,0	3	Fa. Oventrop
61	1	SLIDER DN 40, PN 16, G1 1/2 with handwheel	Art.-Nr. 104 10 12 DIN 3352	Rq/Ms	1,2	3	Fa. Oventrop
62	1	PRESSURE SWITCH type = 18 D conn. = G 1/4	order no. 0880300 p = 0,5-8,0	St Oel CLP220 bar	0,2	3	Fa. Herion
		adjusted at 1 bar voltage 24 V incl. Plug	falling DC at DIN 43	650			
		type = 0523056, 90°	without cabel				
63	1	MANOMETER glycerinfilled conn. = G 1/2 at	D 100 DIN 16064 below	p = 0-16 b	1,0	3	Fa. Wika
64	7	SCREW JOINT GE 42-PLR		St	0,6	3	Fa. EO
65	4	SCREW JOINT GZ 42-L		St	0,7	3	Fa. EO
66	2	SCREW JOINT RI 1 1/4 x 1 1/2		St	0,6	3	Fa. EO
67	1	SCREW JOINT K 42-PL		St	1,8	3	Fa. EO

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
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Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
68	1	SCREW JOINT EW 42-PLR-ED		St	1,2	3	Fa. EO
69	1	SCREW JOINT KOR 42/12-PL		St	0,5	3	Fa. EO
70	1	SCREW JOINT KOR 42/10-PL		St	0,5	3	Fa. EO
71	1	SCREW JOINT GE 10-PLR		St	0,1	3	Fa. EO
72	1	SCREW JOINT MAV 12-PSR		St	0,1	3	Fa. EO
73							
74							
75	1	LUBRICATION PLAN	64567	St		1	
76	4	DISTRIBUTOR ø38x6x300	WN 511/3 DIN 2448	St 37 gebeizt	1,4	3/1	
77	2	SCREW JOINT EW 42-PLR-ED		St	1,2	3	Fa. EO
78	2	SCREW JOINT W 42-PL		St	1,1	3	Fa. EO
79	2	SCREW JOINT K 42-PL		St	1,8	3	Fa. EO
80	1	SCREW JOINT T 42-PL		St	1,4	3	Fa. EO
81	4	SCREW JOINT KOR 42/28-PL		St	0,5	3	Fa. EO

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 7 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
82	4	SCREW JOINT EVGE 28-PLR-ED		St	0,5	3	Fa. EO
83	1	SCREW JOINT KOR 42/18-PL		St	0,5	3	Fa. EO
84	1	SCREW JOINT K 18-PL		St	0,5	3	Fa. EO
85	3	SCREW JOINT KOR 18/10-PL		St	0,1	3	Fa. EO
86	1	SCREW JOINT GE 10-PL/R1/4 keq. with blend ø2,9	54886 DIN 551	St	0,1	3/1	Fa. EO
87	2	SCREW JOINT GE 10-PL/R1/4 keq. with blend ø2,1	54886 DIN 551	St	0,1	3/1	Fa. EO
88	4	SCREW JOINT GE 10-PLR keq.		St	0,1	3	Fa. EO
89	4	SCREW JOINT WE 10-PLR with blend ø2,1	54886 DIN 551	St	0,1	3/1	Fa. EO
90	8	SCREW JOINT GE 12-PL/R1/4 keq.		St	0,1	3	Fa. EO
91	2	SCREW JOINT RI 1 x 3/4		St	0,3	3	Fa. EO
92	2	SCREW JOINT GE 22-PLR		St	0,2	3	Fa. EO
93	2	SCREW JOINT W 22-PL		St	0,3	3	Fa. EO
94	2	SCREW JOINT T 22-PL		St	0,4	3	Fa. EO
95	4	SCREW JOINT KOR 22/12-PL		St	0,2	3	Fa. EO

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 8 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
96	12	SCREW JOINT W 12-PL		St	0,1	3	Fa. EO
97	6	FLAT JET NOZZLE FU 1 Type 652. 766. 30 Q = 8,0 l/min		Ms 58	0,1	2	Fa. Lechler
98	4	FLAT JET NOZZLE FU 1 Type 652. 726. 30 Q = 6,3 l/min		Ms 58	0,1	2	Fa. Lechler
99	2	FLAT JET NOZZLE FU 1 Type 652. 646. 30 Q = 4,0 l/min		Ms 58	0,1	2	Fa. Lechler
100	1	PIPE ø42x2		St	0,1	3	Fa. EO
101	1	PIPE ø22x1,5		St	0,1	3	Fa. EO
102	1	PIPE ø18x1,5		St	0,1	3	Fa. EO
103	1	PIPE ø12x1		St	0,1	3	Fa. EO
104	1	PIPE ø10x1		St	0,1	3	Fa. EO
105	1	LOCKING SCREW G 1 1/2	WN 505 DIN 910	St	0,4	2	
106	4	LOCKING SCREW G 1	WN 505 DIN 910	St	0,2	2	
107	1	WASHER A 48x55x2	DIN 7603	Cu	0,1	3	
108	4	WASHER A 33x39x2	DIN 7603	Cu	0,1	3	
109	4	LOCKING SCREW G 1/4	DIN 906	St	0,1	3	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 9 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
110							
111							
112	2	HEXAGON SCREW M42 x 460	DIN 931	8.8	5,5	3	Pos./Ite 1
113	2	HEXAGON SCREW M42 x 340	DIN 931	8.8	4,2	3	Pos./Ite 1
114	2	HEXAGON SCREW M42 x 320	DIN 931	8.8	3,9	3	Pos./Ite 1
115	4	HEXAGON SCREW M42 x 300	DIN 931	8.8	3,7	3	Pos./Ite 1
116	2	ADJUSTING SCREW M42 x 300	DIN 939	8.8	3,7	3	Pos./Ite 1
117	2	HEXAGON NUT M42	DIN 934	8	0,6	3	Pos./Ite 1
118	12	DISK 43	DIN 6916	C 45	0,2	3	Pos./Ite 1
119	2	HEXAGON SCREW M36 x 240	DIN 931	8.8	2,2	3	Pos./Ite 1
120	2	DISK 37	DIN 6916	C 45	0,1	3	Pos./Ite 1
121	52	HEXAGON SCREW M24 x 110	DIN 931	8.8	0,5	3	Pos./Ite 1
122	2	HEXAGON SCREW M24 x 70	DIN 933	8.8	0,3	3	Pos./Ite 1
123	52	HEXAGON NUT M24	DIN 934	8	0,1	3	Pos./Ite 1

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 10 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
124	54	DISK 25	DIN 6916	C 45	0,1	3	Pos./Ite 1
125	16	CYLINDRICAL PIN ø25m6 x 50	DIN 7979 Form D	St 50k	0,2	3	Pos./Ite 1
126	24	HEXAGON SCREW M10 x 20	DIN 933	8.8	0,1	3	Pos./Ite 2
127	10	HEXAGON SCREW M24 x 80	DIN 931	8.8	0,4	3	Pos./Ite 6
128	16	HEXAGON SCREW M20 x 50	DIN 933	8.8	0,2	3	Pos./Ite 7,8
129	8	HEXAGON SCREW M20 x 110	DIN 931	8.8	0,3	3	Pos./Ite 9
130	2	THREADED PIN M6 x 12	DIN 914	45H	0,1	3	Pos./Ite 10
131	7	HEXAGON SCREW M30 x 80	DIN 931	10.9	0,6	3	Pos./Ite 24
132	6	CHEESE HEAD SCREW M16 x 35	DIN 6912	8.8	0,1	3	Pos./Ite 25
133	10	HEXAGON SCREW M16 x 45	DIN 933	8.8	0,1	3	Pos./Ite 26,27
134	16	HEXAGON SCREW M16 x 40	DIN 933	8.8	0,1	3	Pos./Ite 54,55
135	4	HEXAGON SCREW M16 x 35	DIN 933	8.8	0,1	3	Pos./Ite 56
136							
137							

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.01			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 11 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
138	1	LOCKING SCREW G 1	WN 505 DIN 910	St	0,2	2	
139	4	LOCKING SCREW G 1	DIN 908	St	0,2	3	
140	6	WASHER A 33x39x2	DIN 7603	Cu	0,1	3	
141	1	BREATHER GN 552-57-G 1 A-1	WN 507	K-St	0,1	3	Fa. elesa/ GANter
142	1	LUBRICATION NIPPLE G 1/8	H1	St	0,1	3	Fa. Tecalemi
143	1	TYPE PLATE DOB 105x105 deutsch/englisch	WN 518/2	Al	0,1	2	
144							
145							
146	1	CARDAN SHAFT HUB output		St		4	
147	1	COUPLING input		St		4	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 1 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
1	1	HOUSING	64491A	St 52-3		1	
2	4	INSPECTION COVER Gr. 9	WN 108	RSt 37-2	6,8	2	
3	4	FLAT PACKING Gr. 9	WN 110	Tesnid Uni blau	0,1	2	
4							
5							
6	1	LABYRINTH COVER ø590/380x59	64550	St 52-3	58,0	1	
7	1	SEALING COVER ø450x37	64551	St 52-3 St 37-2	20,0	1	
8	1	SEALING COVER ø380x40	64552	St 52-3 St 37-2	15,0	1	
9	1	SEALING COVER ø450/210x88	64553	St 52-3	65,0	1	
10	1	LABYRINTH RING ø464/330x56	64554	St 52-3	28,0	1	
11							
12							
13	1	DISTANCE SLEEVE ø360/330x72	64555 DIN 2448	St 52 Rohr/ TUBE 368x22,2	9,2	1	
14	1	DISTANCE SLEEVE ø320/300x9,5	64556 DIN 2448	St 52 Rohr/TUBE 330x17,5	0,7	1	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 2 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
15	1	DISTANCE SLEEVE ø300/275x15	64557 DIN 2448	St 52 Rohr/ TUBE 305x17,5	1,3	1	
16	1	DISTANCE SLEEVE ø235/200x10	64558 DIN 2448	St 52 Rohr/ TUBE 244,5x25	0,9	1	
17	1	DISTANCE SLEEVE ø200/180x85	64559 DIN 2448	St 52 Rohr/ TUBE 203x25	3,9	1	
18	1	INTERNAL RING IR 180x195x45 EGS		St	1,6	3	Fa. INA
19							
20							
21	1	DISK ø400/223x32	64560	42 CrMo 4	21,0	1	
22							
23							
24	1	END DISK ø300x40	64561	42 CrMo 4	19,0	1	
25	1	END DISK ø260x22	077.240.01	St 60	9,1	1	
26	1	END DISK ø240x22	077.220.00	St 60	7,8	1	
27	1	END DISK ø190/184x22	WN 117 ø170	St 60	5,3	2	
28							

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 3 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
29							
30	1	EXIT SHAFT ø376x1443	64562	42 CrMo 4	925,0	1	
31	1	SPUR WHEEL ø1157/345x275	64563 750-3,050	18CrNiMo7-	1720,0	1	
32	1	PINION SHAFT ø415x1323	64564A 750-3,050	18CrNiMo7-	848,0	1	
33	1	SPUR WHEEL ø795/280x185	64565 530-2,739	18CrNiMo7-	580,0	1	
34	1	INPUT PINION SHAFT ø313x895	64566 530-2,739	18CrNiMo7-	245,0	1	
35							
36							
37	1	SPHERICAL ROLLER BEA 23972 CC/W33	DIN 635	St with steel cage	46,0	3	
38	1	SPHERICAL ROLLER BEA 23960 CC/W33	DIN 635	St with steel cage	39,5	3	
39	2	THRUST-SPERICAL BEA. 29344 E	DIN 616	St with steel cage	33,5	3	
40	1	SPHERICAL ROLLER BEA 23048 CC/W33	DIN 635	St with steel cage	33,5	3	
41	1	MAT.TAPER ROLLER BEA 32944/DF	DIN 720	St with steel cage	21,0	3	
42	1	SPHERICAL ROLLER BEA 23034 CC/W33	DIN 635	St with steel cage	13,0	3	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 4 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
43	1	MAT.TAPER ROLLER BEA 30240 J2/DF	DIN 720	St with steel cage	52,0	3	
44	1	LOCK NUTS KM 40 M200x3	DIN 981	St	3,4	3	
45	1	LOCKING WASHER MB 40 ø262/200x2,5	DIN 5406	St	0,3	3	
46	12	PRESSURE SPRING Da= 15, d= ø2,8 Lo= 38	Bestell-Nr. 1954	F-St	0,1	3	Fa. Uwe Hopp
47							
48							
49	2	ROTARY SHAFT SEAL B2 360x400x20	DIN 3760	72 NBR 902	1,1	3	
50	2	ROTARY SHAFT SEAL B2 195x230x15	DIN 3760	72 NBR 902	0,4	3	
51	1	V-WASHERS CR 404502 ø418/405x10,5	style VR3	NBR	0,2	3	Fa. SKF
52							
53							
54	1	FLANGE C 150x168,3	DIN 2631 PN 6	RSt 37-2	5,2	3	
55	1	BLIND FLANGE B 150	DIN 2527 PN 6	USt 37-1	7,5	3	
56	2	THREAD FLANGE C 40	DIN 2566 PN 16	USt 37-1	1,8	3	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 5 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
57	2	FLAT PACKING DN 150	DIN 2690 PN 6	ItOe	0,1	3	
58	1	FLAT PACKING DN 40	DIN 2690 PN 40	ItOe	0,1	3	
59	1	FLOW LIMITER Typ : SP/SMB 6/2/0/1 without electr. Sign	270 aler for	St	5,8	3	Fa. Voqe
		kabel installation for 100 l/min, CLP order no.: 24-2706	connection 220 and 40° -1270	G 1 1/4 C			
60	1	MUD FLAP DN 40, PN 16, G1 1/2 strainer inset 0,6	art.-no. 112 00 12 100 mesh	Rq per cm ²	1,0	3	Fa. Oventrop
61	1	SLIDER DN 40, PN 16, G1 1/2 with handwheel	Art.-Nr. 104 10 12 DIN 3352	Rq/Ms	1,2	3	Fa. Oventrop
62	1	PRESSURE SWITCH type = 18 D conn. = G 1/4	order no. 0880300 p = 0,5-8,0	St Oel CLP220 bar	0,2	3	Fa. Herion
		adjusted at 1 bar voltage 24 V incl. Plug	falling DC at DIN 43	650			
		type = 0523056, 90°	without cabel				
63	1	MANOMETER glycerinfilled conn. = G 1/2 at	D 100 DIN 16064 below	p = 0-16 b	1,0	3	Fa. Wika
64	7	SCREW JOINT GE 42-PLR		St	0,6	3	Fa. EO
65	4	SCREW JOINT GZ 42-L		St	0,7	3	Fa. EO
66	2	SCREW JOINT RI 1 1/4 x 1 1/2		St	0,6	3	Fa. EO
67	1	SCREW JOINT K 42-PL		St	1,8	3	Fa. EO

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 6 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
68	1	SCREW JOINT EW 42-PLR-ED		St	1,2	3	Fa. EO
69	1	SCREW JOINT KOR 42/12-PL		St	0,5	3	Fa. EO
70	1	SCREW JOINT KOR 42/10-PL		St	0,5	3	Fa. EO
71	1	SCREW JOINT GE 10-PLR		St	0,1	3	Fa. EO
72	1	SCREW JOINT MAV 12-PSR		St	0,1	3	Fa. EO
73							
74							
75	1	LUBRICATION PLAN	64567	St		1	
76	4	DISTRIBUTOR ø38x6x300	WN 511/3 DIN 2448	St 37 gebeizt	1,4	3/1	
77	2	SCREW JOINT EW 42-PLR-ED		St	1,2	3	Fa. EO
78	2	SCREW JOINT W 42-PL		St	1,1	3	Fa. EO
79	2	SCREW JOINT K 42-PL		St	1,8	3	Fa. EO
80	1	SCREW JOINT T 42-PL		St	1,4	3	Fa. EO
81	4	SCREW JOINT KOR 42/28-PL		St	0,5	3	Fa. EO

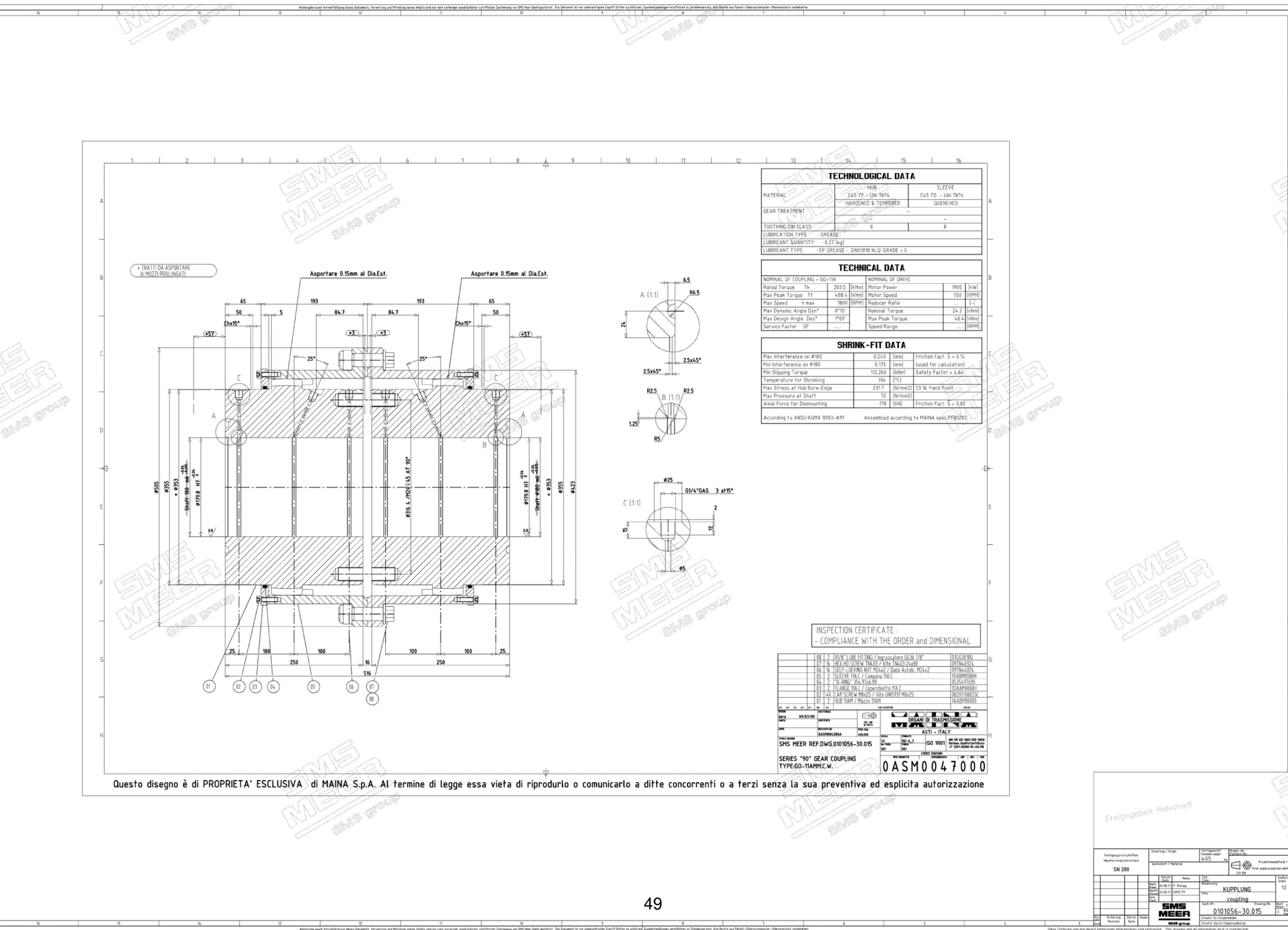
 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 7 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
82	4	SCREW JOINT EVGE 28-PLR-ED		St	0,5	3	Fa. EO
83	1	SCREW JOINT KOR 42/18-PL		St	0,5	3	Fa. EO
84	1	SCREW JOINT K 18-PL		St	0,5	3	Fa. EO
85	3	SCREW JOINT KOR 18/10-PL		St	0,1	3	Fa. EO
86	1	SCREW JOINT GE 10-PL/R1/4 keq. with blend ø2,9	54886 DIN 551	St	0,1	3/1	Fa. EO
87	2	SCREW JOINT GE 10-PL/R1/4 keq. with blend ø2,1	54886 DIN 551	St	0,1	3/1	Fa. EO
88	4	SCREW JOINT GE 10-PLR keq.		St	0,1	3	Fa. EO
89	4	SCREW JOINT WE 10-PLR with blend ø2,1	54886 DIN 551	St	0,1	3/1	Fa. EO
90	8	SCREW JOINT GE 12-PL/R1/4 keq.		St	0,1	3	Fa. EO
91	2	SCREW JOINT RI 1 x 3/4		St	0,3	3	Fa. EO
92	2	SCREW JOINT GE 22-PLR		St	0,2	3	Fa. EO
93	2	SCREW JOINT W 22-PL		St	0,3	3	Fa. EO
94	2	SCREW JOINT T 22-PL		St	0,4	3	Fa. EO
95	4	SCREW JOINT KOR 22/12-PL		St	0,2	3	Fa. EO

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 8 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
96	12	SCREW JOINT W 12-PL		St	0,1	3	Fa. EO
97	6	FLAT JET NOZZLE FU 1 Type 652. 766. 30 Q = 8,0 l/min		Ms 58	0,1	2	Fa. Lechler
98	4	FLAT JET NOZZLE FU 1 Type 652. 726. 30 Q = 6,3 l/min		Ms 58	0,1	2	Fa. Lechler
99	2	FLAT JET NOZZLE FU 1 Type 652. 646. 30 Q = 4,0 l/min		Ms 58	0,1	2	Fa. Lechler
100	1	PIPE ø42x2		St	0,1	3	Fa. EO
101	1	PIPE ø22x1,5		St	0,1	3	Fa. EO
102	1	PIPE ø18x1,5		St	0,1	3	Fa. EO
103	1	PIPE ø12x1		St	0,1	3	Fa. EO
104	1	PIPE ø10x1		St	0,1	3	Fa. EO
105	1	LOCKING SCREW G 1 1/2	WN 505 DIN 910	St	0,4	2	
106	4	LOCKING SCREW G 1	WN 505 DIN 910	St	0,2	2	
107	1	WASHER A 48x55x2	DIN 7603	Cu	0,1	3	
108	4	WASHER A 33x39x2	DIN 7603	Cu	0,1	3	
109	4	LOCKING SCREW G 1/4	DIN 906	St	0,1	3	

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 9 / 11	
Customer: SMS Meer, Mönchengladbach				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
110							
111							
112	2	HEXAGON SCREW M42 x 460	DIN 931	8.8	5,5	3	Pos./Ite 1
113	2	HEXAGON SCREW M42 x 340	DIN 931	8.8	4,2	3	Pos./Ite 1
114	2	HEXAGON SCREW M42 x 320	DIN 931	8.8	3,9	3	Pos./Ite 1
115	4	HEXAGON SCREW M42 x 300	DIN 931	8.8	3,7	3	Pos./Ite 1
116	2	ADJUSTING SCREW M42 x 300	DIN 939	8.8	3,7	3	Pos./Ite 1
117	2	HEXAGON NUT M42	DIN 934	8	0,6	3	Pos./Ite 1
118	12	DISK 43	DIN 6916	C 45	0,2	3	Pos./Ite 1
119	2	HEXAGON SCREW M36 x 240	DIN 931	8.8	2,2	3	Pos./Ite 1
120	2	DISK 37	DIN 6916	C 45	0,1	3	Pos./Ite 1
121	52	HEXAGON SCREW M24 x 110	DIN 931	8.8	0,5	3	Pos./Ite 1
122	2	HEXAGON SCREW M24 x 70	DIN 933	8.8	0,3	3	Pos./Ite 1
123	52	HEXAGON NUT M24	DIN 934	8	0,1	3	Pos./Ite 1

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 10 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
124	54	DISK 25	DIN 6916	C 45	0,1	3	Pos./Ite 1
125	16	CYLINDRICAL PIN ø25m6 x 50	DIN 7979 Form D	St 50k	0,2	3	Pos./Ite 1
126	24	HEXAGON SCREW M10 x 20	DIN 933	8.8	0,1	3	Pos./Ite 2
127	10	HEXAGON SCREW M24 x 80	DIN 931	8.8	0,4	3	Pos./Ite 6
128	16	HEXAGON SCREW M20 x 50	DIN 933	8.8	0,2	3	Pos./Ite 7,8
129	8	HEXAGON SCREW M20 x 110	DIN 931	8.8	0,3	3	Pos./Ite 9
130	2	THREADED PIN M6 x 12	DIN 914	45H	0,1	3	Pos./Ite 10
131	7	HEXAGON SCREW M30 x 80	DIN 931	10.9	0,6	3	Pos./Ite 24
132	6	CHEESE HEAD SCREW M16 x 35	DIN 6912	8.8	0,1	3	Pos./Ite 25
133	10	HEXAGON SCREW M16 x 45	DIN 933	8.8	0,1	3	Pos./Ite 26,27
134	16	HEXAGON SCREW M16 x 40	DIN 933	8.8	0,1	3	Pos./Ite 54,55
135	4	HEXAGON SCREW M16 x 35	DIN 933	8.8	0,1	3	Pos./Ite 56
136							
137							

 Dr. W. Ostermann DOB-Getriebebau				Bill of material Order-no.: 111101.02			
Unit: SNC2-750S				Drawing-no.: 64490		Page: 11 / 11	
Customer: SMS Meer, Mönchengladbach				kg/piece:		Piece: 1	
				Date: 3.11.2011		Name: ama	
Item	Piece	Object	Drawing-no./norm	Material	kg/piece	Code	Remarks
138	1	LOCKING SCREW G 1	WN 505 DIN 910	St	0,2	2	
139	4	LOCKING SCREW G 1	DIN 908	St	0,2	3	
140	6	WASHER A 33x39x2	DIN 7603	Cu	0,1	3	
141	1	BREATHER GN 552-57-G 1 A-1	WN 507	K-St	0,1	3	Fa. elesa/ GANter
142	1	LUBRICATION NIPPLE G 1/8	H1	St	0,1	3	Fa. Tecalemi
143	1	TYPE PLATE DOB 105x105 deutsch/englisch	WN 518/2	Al	0,1	2	
144							
145							
146	1	CARDAN SHAFT HUB output		St		4	
147	1	COUPLING input		St		4	





TECHNICAL FEATURES	
Mass	M [kg] 5350
Mass moment of inertia	J [kgm ²] 1425
orsional stiffness	K [Nm/rad]

DATI SCALNATO INTERNO - INTERNAL SPLINE DATA			
SCALNATO CON FIANCO A EVOLUZIONE - INVOLUTE SPLINE			
NOMINALE 30/36/40/48/54/60/66/72/84/96/108/120/132/144/156/168/180/192/204/216/228/240/252/264/276/288/300			
NOMINALE CON FIANCO A EVOLUZIONE - INVOLUTE SPLINE WITH FLANK - SIDE FLT			
NOMINALE 30/36/40/48/54/60/66/72/84/96/108/120/132/144/156/168/180/192/204/216/228/240/252/264/276/288/300			
DIAMETRO NORMALE	41	300	REFERENCE DIAMETER
DIAMETRO PRIMITIVO	41	288	PITCH DIAMETER
MODULO	4	8	MODULE
NUMERO DENTI	2	36	NUMBER OF TEETH
ANGOLO DI PRESSIONE	20°	20°	PRESSURE ANGLE
SPALZAMENTO PRIMITIVO	40	+0.020/-0.160	PROFILE SHIFT
INTERVALLO TRA DUE	1941		INTERNAL MEASUREMENT
MISURA IN MILLA	77.935	-0.023	BETWEEN TWO DENTS IN MIL
REGIME IN %			

NORMAL OF UNIVERSAL JOINT - BESS		NORMAL OF DRIVE -	
Nominal torque	18	821	[Nm]
Alternating torque 10s	25	[Nm]	Motor Power
Alternating torque 10min	35	[Nm]	Motor Speed
Pulsating torque 100s	40	[Nm]	Motor Gear Ratio
Limit torque	113	[Nm]	Nominal torque
Max. design Angle	5°	[°]	Overload
			Peak torque
			Max Load Angle
Service Factor	1.5		8
			1

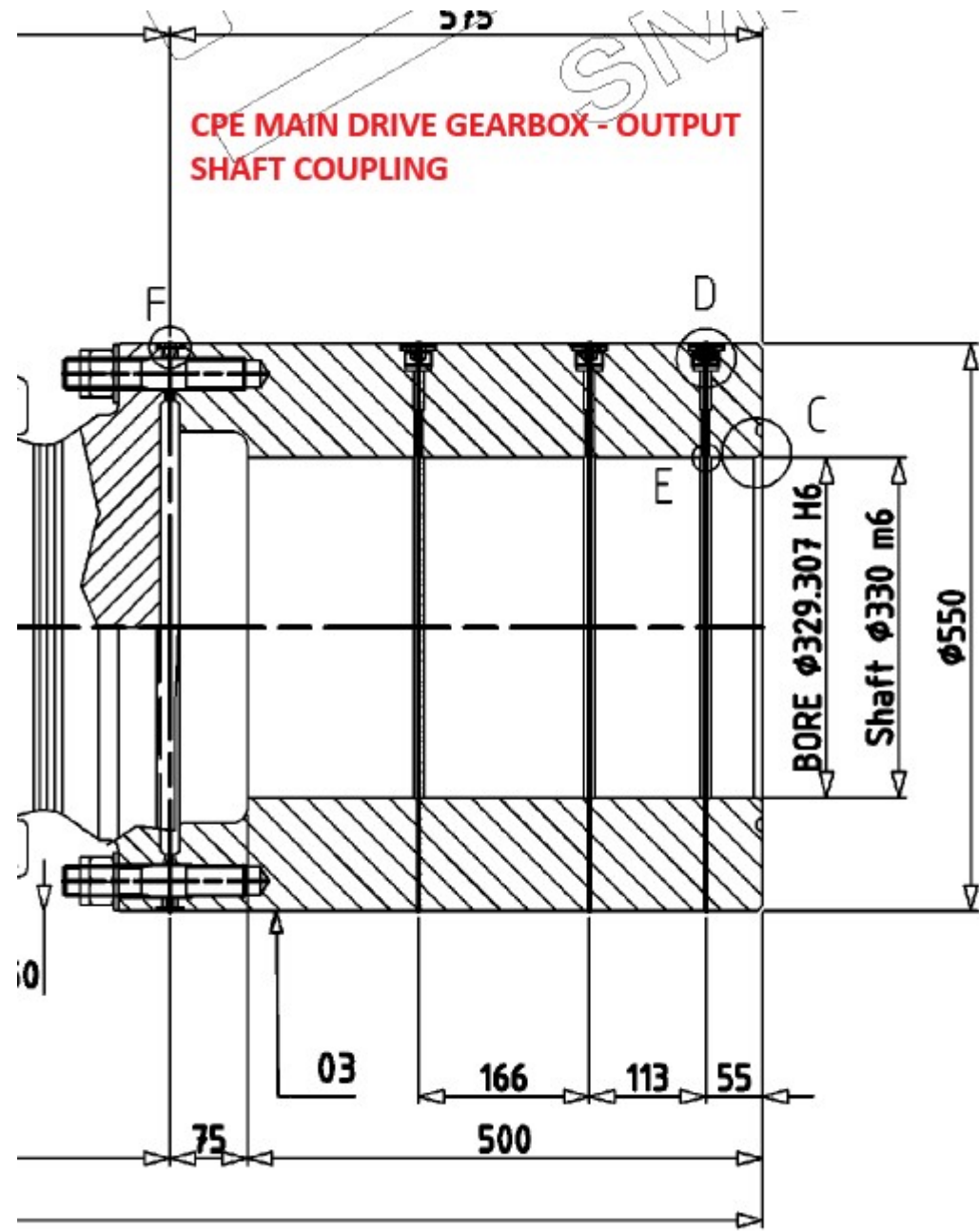
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SHRINK - FIT DATA - PINION SIDE		
Max interference	mil	0.250
Min interference	mil	0.119
Min slipping torque	inches	135.6
Requirements for slipping	inches	277.9
Max stress at hub bore edge	ksi	45.3
Max pressure at shaft	ksi	135.4
Max force for dismounting	lbf	1071.7
		Friction factor = 0.02
		63% yield point
		Safety factor = 6.22
		Friction factor = 0.04

PROVA CONFEZIONATA, SECONDO IL CAT.	250	
DIAMETRO INTERNO	60	
DIAMETRO PROFONDO	288	
MODULO	8	
NUMERO DENTI	z	36
NUMERO DI TEETH	2	36
ANGOLO DI PRESSIONE	Ag°	30°
SPOSTAMENTO PROFILO	mm	+0.200mm
MISURA INTERNA TRA DUE		[9H] +0.200
PERMANENZA INTERNA TRA DUE		270.915
RULLINI Ø 1/8	H	-0.073
		BETWEEN TWO PINS Ø1/8

Nominal Torque	Tk	1031	[N·m]	Motor Power	-	[kW]
Alternating Torque	T _{0W}	516	[N·m]	Motor Speed	-	[RPM]
Pulsating Torque	T _{0ch}	640	[N·m]	Gear Ratio	-	[—]
Pulsating Torque	T _{0c}	830	[N·m]	Nominal Torque	204	[N·m]
Limit Torque	Δ	200	[N·m]	Overload	408	[N·m]
Max Design Angle	Dyn*	15°		Pack Torque	-	
Service Factor	SF	8	[—]	Max Load Angle	-	
Max Torque	T _{max}	1600	[N·m]	Max Torque	-	

[illegible]



Schedule:

1 SP9112321000

CPE MAIN GEAR BOX ST85

Reduction Gear Box, Single Input - Single Output,

Motor input power:1900 kW,

Motor Input RPM:750,

Gear box output RPM:89.77

Motor Input Torque (T1 min):24.200 KNM,

Motor Input torque (T1max):48.400 KNM ,

Gear box out put torque (T2 min):202.200 KNM ,

Gear box out put torque (T2 max):404.400 KNM,

Other specification and scope of supply as per attached annexure.