POMPE GRUPPO 3

OT OilTechnology è una giovane azienda, costituita nel novembre del 2001 , che produce nell'hinterland di Parma una valida gamma di pompe ad ingranaggi esterni.

Dal punto di vista tecnico OT OilTechnology ha realizzato un progetto " aggiornato " che è la sintesi delle esperienze applicative e delle nuove esigenze di mercato.

Le chiavi del successo di OT sono:

- ***SERVIZIO:*** **Un servizio esemplare e flessibile per caratterizzare l'azienda.**
- ***QUALITA':*** **Costante monitoraggio del processo produttivo e adeguato collaudo finale prodotto al 100% per assicurare la migliore qualita'.**
- ***PREZZO:*** **Bassi costi di struttura uniti ad un processo produttivo efficiente per garantire prezzi competitivi.**
- ***PROPORSI E DIVENIRE PARTNER DEI PROPRI CLIENTI:*** **questa è la MISSION di OT OilTechnology.**

GROUP 3 PUMPS

OT OilTechnology is a young Company, founded in November 2001, which makes a comprehensive range of external gear pumps.

From the technical side OT Oiltechnology has realized an "up-to date" project that is in line with the new needs of the market.

The OT key to succes is the following:

- ***SERVICE:*** **A very good service, higly flexible, most important attribute of the Company.**
- ***QUALITY:*** **Costant quality control and 100% product resting to achieve the best results possible from our working processes.**
- ***PRICE:*** **Low overheads together with an efficient working process to offer competitive prices.**
- ***TO BE A PARTNER OF OUR CUSTOMERS:*** **This is the MISSION of OT OilTechnology.**

POMPE GRUPPO 3

INDICE GENERALE

- Caratteristiche costruttive, generali e di impiego	Pag. 4 - 6 - 8 - 10
- Curve caratteristiche - determinazione di una pompa	Pag. 12 - 14
- Pompe standard Europeo	Pag. 16 - 18
- Pompe standard Americano SAE "B"	Pag. 20 - 22 - 24 - 26- 28 - 30
- Pompe tandem OT300-OT300	Pag. 32 - 34 - 36 - 38 - 40
- Pompe tandem OT300-OT200	Pag. 42 - 44 - 46 - 48 - 50
- Pompe intermedie	Pag. 52 - 54
- Pompe reversibili	Pag. 56 - 58
- Motori unidirezionali	Pag. 60
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GROUP 3 PUMPS

GENERAL INDEX

- Constructive and general characteristics, istallation istructions	Pag. 5 - 7 - 9 - 11
- Characteristics curves - pump calculation	Pag. 13 - 15
- European standard pumps	Pag. 17 - 19
- SAE "B" standard pumps	Pag. 21 - 23 - 25 - 27 - 29 - 31
- Tandem pumps OT300-OT300	Pag. 33 - 35 - 37 - 39 - 41
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- Unidirectional motors	Pag. 61
- Motors : characteristics curves	Pag. 63 - 65
- Reversible motors	Pag. 67 - 69

GROUP 3 PUMPS

GEAR HOUSING

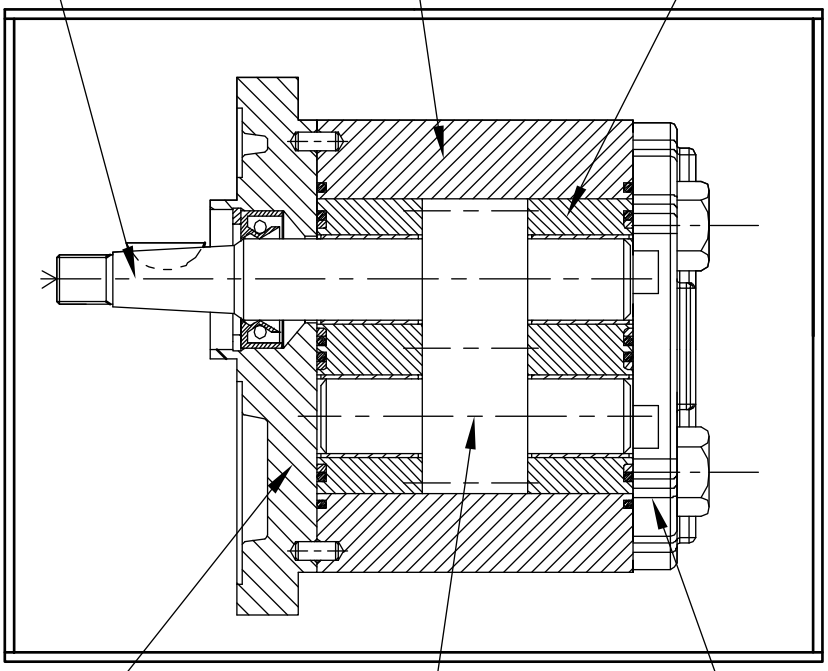
Extruded in aluminium alloy

DRIVE SHAFTS

Choice of several standard drive shafts

BEARINGS

Hi-resistant aluminium alloy with DU sleeve bearings to offer high performances.



MOUNTING FLANGES

Choice of several mounting flanges in cast iron

COVER

Made in cast iron material

GEARS

Designed specifically to reduce the noise level and offer the best performance between flow pulsation and displacements

GROUP 3 PUMPS

CONSTRUCTIVE CHARACTERISTICS:

PART	*MATERIAL*	*CHARACTERISTICS*
GEARS	Hardened steel UNI 7846	Rs= 1250 N/mm^2 Rm= 1450 N/mm^2
FLANGE AND COVER	G25 / G30 cast iron	Rs= 300 N/mm^2 Rm= 450 N/mm^2
BEARINGS	Avional Bearings with DU	Rs= 350 N/mm^2 Rm= 390 N/mm^2
BODY	Etruded In aluminium alloy Series 7020	Rs= 350 N/mm^2 Rm= 390 N/mm^2
O-RINGS	Buna N Viton	90 Shore, up to 90°C 80 Shore, for high temperature
ANTIEXTRUSION	Zitel	With glass fibres

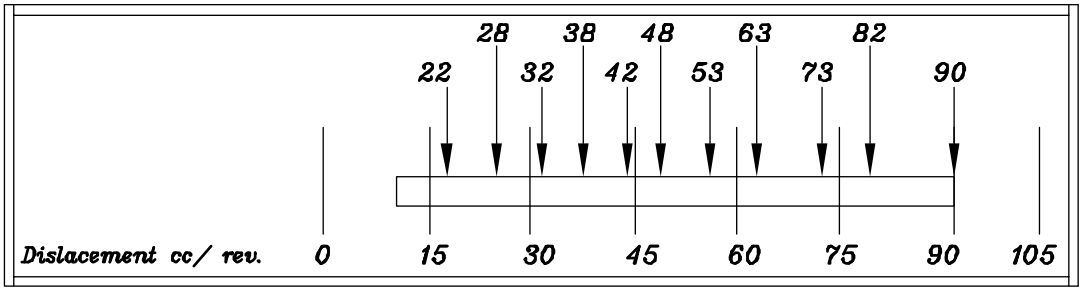
Rs= Enervation load
Rm= Breaking load

GENERAL CHARACTERISTICS:

Maximum pressures up to 300 bar.
Weight : from 8.2 Kg to 10.5 kg
Maximum speed up to 3.000 rpm.
Type of shafts: Taper 1:8
SAE B splined-13 teeth
SAE B cylindrical - Ø22.2

Type of flanges: European standard
SAE A standard.

Displacements from 22 cc/rev to 90 cc/rev.
The displacements are available according this table:



DRIVE:

The connection of the pump to the motor must be done preferably with the use of a flexible coupling to avoid any radial and/or axial force on the shaft, otherwise pump efficiency will dramatically drop due to early wear of inner moving parts.
In any applications where the motion is trasmitted through belts, it is necessary to use a support to avoid any radial or axial load to the pump shaft.

GROUP 3 PUMPS

WORKING CONDITIONS- LIMIT PERFORMANCES

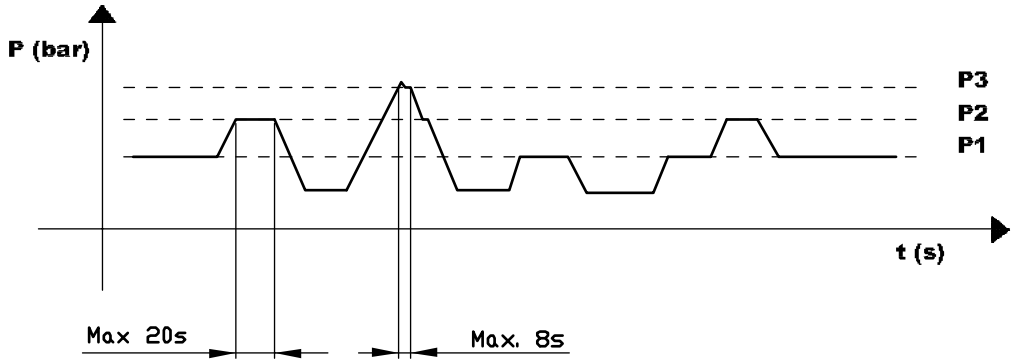
In normal working conditions there must be, in the suction pipe, a pressure lower than the atmospheric pressure.

The pressure range in suction must be:

Min. 0.75 bar (absolute)	MAX 2,0 bar (absolute)

The maximun pressure values "P1" are referred to a continuous working at 1500 rpm with standard hydraulic fluids with minimum viscosity of 10 cSt.
For heavier working conditions (viscosity or high temperature) it is necessary to reduce the "P1" values.

In the following table are described the admitted pressures:

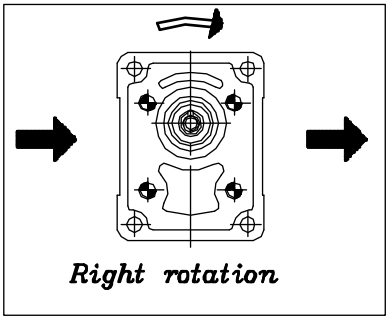


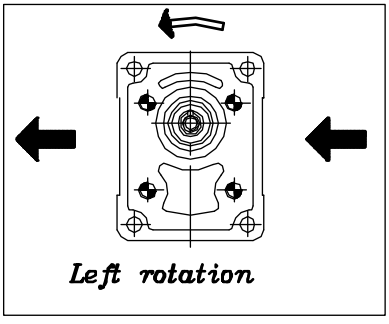
P3 Maximum peak pressure.
P2 Maximum intermittent pressure.
P1 Maximum continuous pressure.

The standard working speeds (minimum and maximum) are the following:

Min. = 400 rpm	Max = (See following table)

DIRECTION OF ROTATION LOOKING AT THE SHAFT:





GROUP 3 PUMPS

FLUID FILTRATION

It is known that in many cases the premature pump performances reduction is due to a non correct filtration in the circuit.
The presence of contamination particles in the fluid usually corresponds to an irreparable wear of the pump internal parts.
It is raccomanded to pay attention to the plant cleaning, mainly in the starting activity.
The starting fluid contamination it must be according to the Norms ISO 4406 and it should not exceed the Class 19/16 with a filter 3x75.

Here below the technical parameters to respect:

FILTRATION IN SUCTION LINE	30 / 60 Nominal micron
FILTRATION IN PRESSURE LINE	10 / 25 absolute micron
MAXIMUM SPEED IN SUCTION	0.5 / 1.5 m/s
MAXIMUM SPEED IN OUTPUT	3.0 / 5.5 m/s

Sometime (contaminated places) it is racommended to improve the filtration in pressure line and fit also an air filter.

HYDRAULIC FLUIDS

It is recommended the use of fluids made for hydraulic circuits.
Usually they are hydraulic oils with mineral basis HLP HV (DIN 51524).
Here below the technical parameters to respect:

MINIMUM VISCOSITY	10 mm^2/s
MAXIMUM VISCOSITY	100 mm^2/s
SUGGESTED VISCOSITY	20 mm^2/s / 100 mm /s
SUGGESTED TEMPERATURE	30°C / 50°C
WORKING TEMPERATURE	-15°C / +80°C

For applications with water-glycol (HF-C) it is racommended to consider the following limitations: 1500 rpm maximum speed and 200 bar maximum pressure.
For applications with phosphate ester fluids, please contact our Technical department.

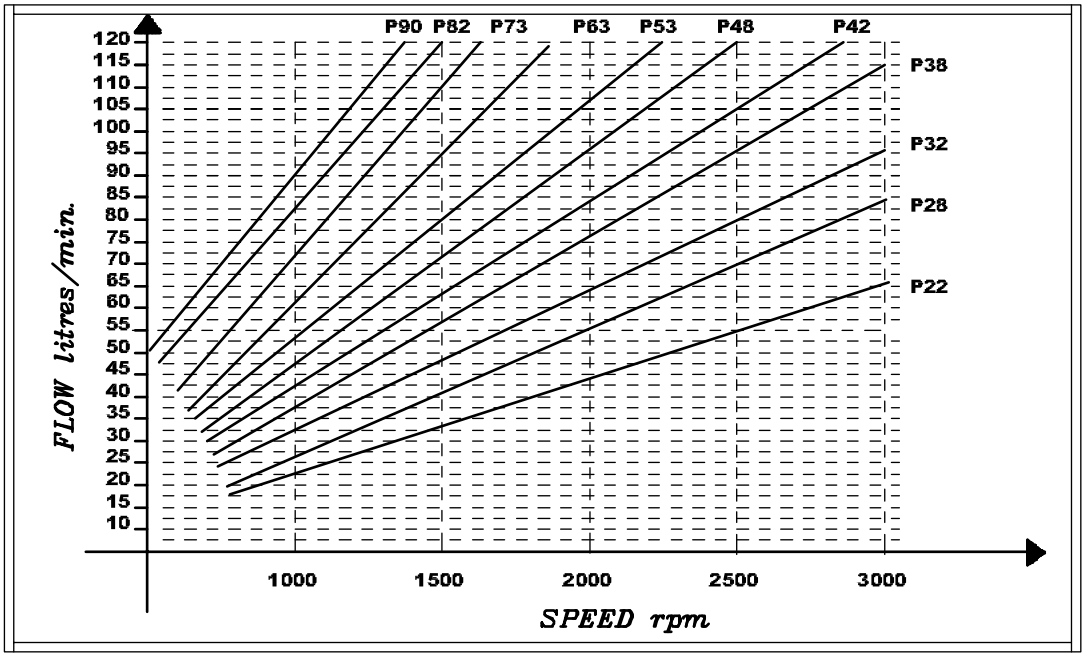
ISTALLATION INSTRUCTION

During the first starting it is racommended:
- to set the maximum pressure relief valves to a low value and gradually increase the pressure.
- to check, with single rotation pumps, that the rotation direction it is correct.
- to check that the connection betwen the motor and pump shaft is correct: without radial or axial load.
- to avoid starting under pressure in low temperature conditions or after long period of inactivity
- to check the fluid level in the tank
- to disconnect the return pipe and purge any air in the circuit
- to protect the pumpshaft seal when painting power pack
- to use suitable systems in the return lines to tank, to avoid turbulence in the circuit and ingress of air, water or contamination
- to check the torque that must be lower than the maximum torque admissible on the pump shaft
- to use new oil filters with absence of water or any other emulsifying substance
- to avoid starting with a air-oil solution

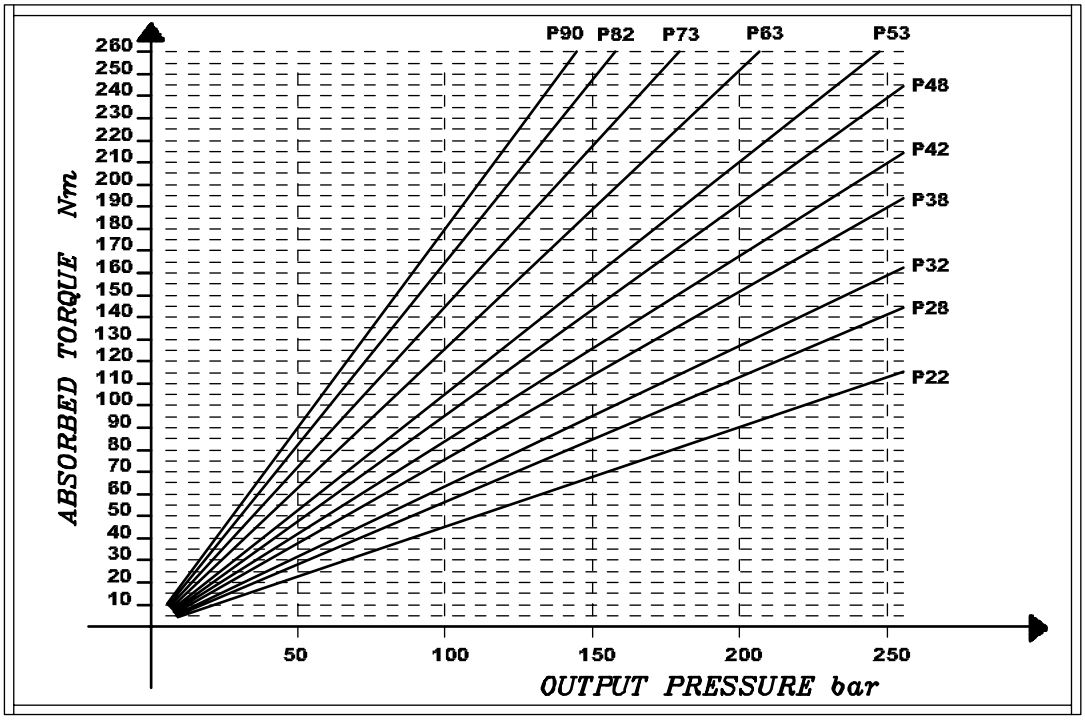
It is important to specify an oil tank at least twice the flow from the pump.

GROUP 3 PUMPS

FLOW CHARACTERISTICS CURVES



ABSORBED TORQUE



NOTE

Above flow characteristics curves have been made considering a volumetric efficiency of 95%

GROUP 3 PUMPS

PUMP CALCULATION

V	Displacement	CC / REV
Q	Flow	l/min
P	Power	kW
C	Torque	N · m
N	Speed	-15°C / +80°C
ΔP	Pressure	bar
n_v	Volumetric efficiency	0.95
n_m	Mechanical efficiency	0.9
n_t	Total efficiency	0.85

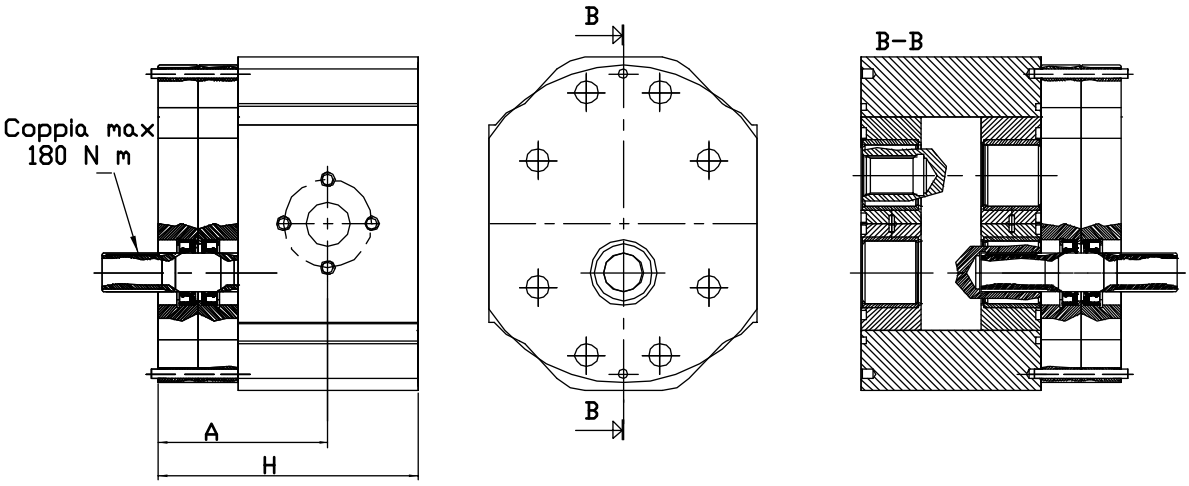
$$Q = V \cdot n_v \cdot N \cdot 10^{-3} \qquad l/min$$

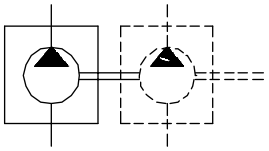
$$C = \frac{\Delta P \cdot V}{62.8 \cdot n_m} \qquad N \cdot m$$

$$P = \frac{\Delta P \cdot V \quad N}{612000 \cdot n_t} \qquad kW$$

POMPE GRUPPO 3 INTERMEDIE PER TANDEM

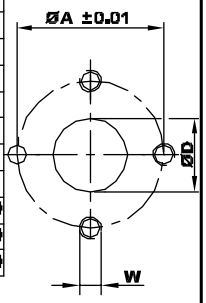
VERSIONE: P X X INTERMEDIA





NOTE : Coppia di serraggio viti 48 N·m

Tipo	Cilindrata (cc/giro)	Pressione massima continua P1 (bar)	Pressione di punta P3 (bar)	Velocita' massima (giri/min.)	Dimensione A (mm)	Dimensione H (mm)	Bocca di aspirazione ØD	Bocca di aspirazione ØA	Bocca di aspirazione W	Bocca di mandata ØD	Bocca di mandata ØA	Bocca di mandata W
OT 300 P22	22	260	300	3000	71.4	106.8	27	51	M10	19	40	M8
OT 300 P28	28	260	300	3000	73.7	111.4	27	51	M10	19	40	M8
OT 300 P32	32	260	300	3000	75.2	114.4	27	51	M10	19	40	M8
OT 300 P38	38	240	280	3000	77.5	119.0	27	51	M10	19	40	M8
OT 300 P42	42	240	280	3000	79.0	122.0	27	51	M10	19	40	M8
OT 300 P48	48	240	280	3000	86.3	136.6	27	51	M10	19	40	M8
OT 300 P53	53	220	250	3000	88.2	140.4	27	51	M10	19	40	M8
OT 300 P63	63	200	240	2100	92.0	148.0	27	51	M10	19	40	M8
OT 300 P73	73	180	210	2100	95.9	155.7	36	62	M12	27	51	M10
OT 300 P82	82	170	200	2100	99.3	162.6	36	62	M12	27	51	M10
OT 300 P90	90	150	180	2100	102.3	168.6	36	62	M12	27	51	M10



ESEMPIO DI CODICE D'ORDINAZIONE

OT300 P 22 S / P X X INTERMEDIA

- OT300 — Serie
- P — Pompa
- 22 — Cilindrata (vedere tabella)
- S — Rotazione

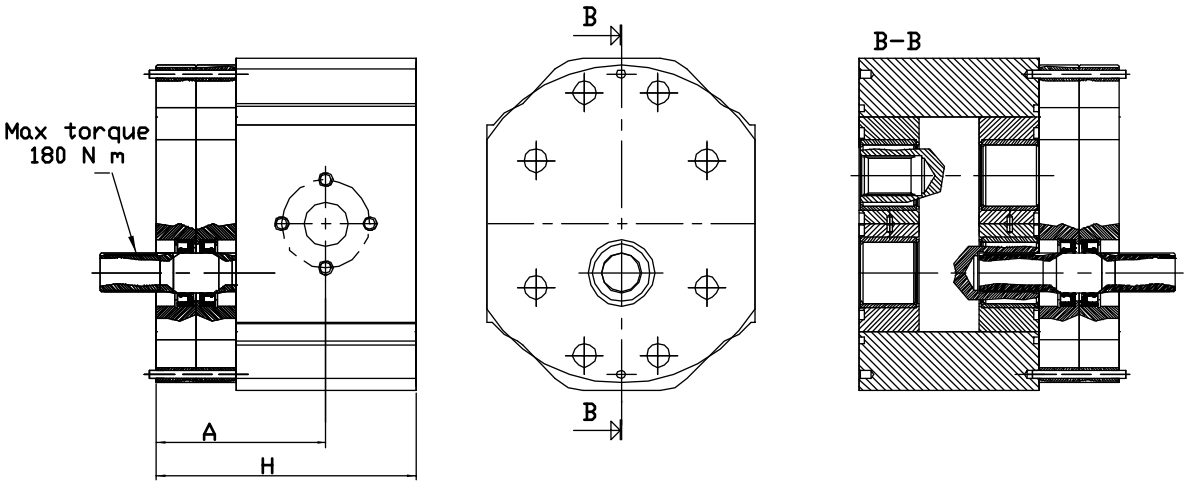
Rotazione	
S	Sinistra
D	Destra

- P — Corpo con bocche a flangia

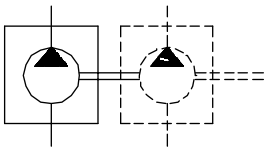
DISPONIBILE PER QUANTITA'

INTERMEDIATE GROUP 3 PUMPS FOR TANDEM UNITS

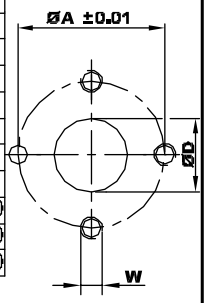
VERSION: P X X INTERMEDIATE



NOTE : Screw tightening torque 48 N·m



Type	Displacement (cc/rev)	Max working pressure P1 (bar)	Peak pressure P3 (bar)	Max speed (r.p.m)	Dimension A (mm)	Dimension H (mm)	Inlet port			Outlet port		
								e			e	
OT 300 P22	22	260	300	3000	71.4	106.8	27	51	M10	19	40	M8
OT 300 P28	28	260	300	3000	73.7	111.4	27	51	M10	19	40	M8
OT 300 P32	32	260	300	3000	75.2	114.4	27	51	M10	19	40	M8
OT 300 P38	38	240	280	3000	77.5	119.0	27	51	M10	19	40	M8
OT 300 P42	42	240	280	3000	79.0	122.0	27	51	M10	19	40	M8
OT 300 P48	48	240	280	3000	86.3	136.6	27	51	M10	19	40	M8
OT 300 P53	53	220	250	3000	88.2	140.4	27	51	M10	19	40	M8
OT 300 P63	63	200	240	2100	92.0	148.0	27	51	M10	19	40	M8
OT 300 P73	73	180	210	2100	95.9	155.7	36	62	M12	27	51	M10
OT 300 P82	82	170	200	2100	99.3	162.6	36	62	M12	27	51	M10
OT 300 P90	90	150	180	2100	102.3	168.6	36	62	M12	27	51	M10



EXAMPLE OF ORDERING CODE

OT300 P 22 S / P X X INTERMEDIATE

- OT300 — Series
- P — Pump
- 22 — Displacement (see above table)
- S — Rotation

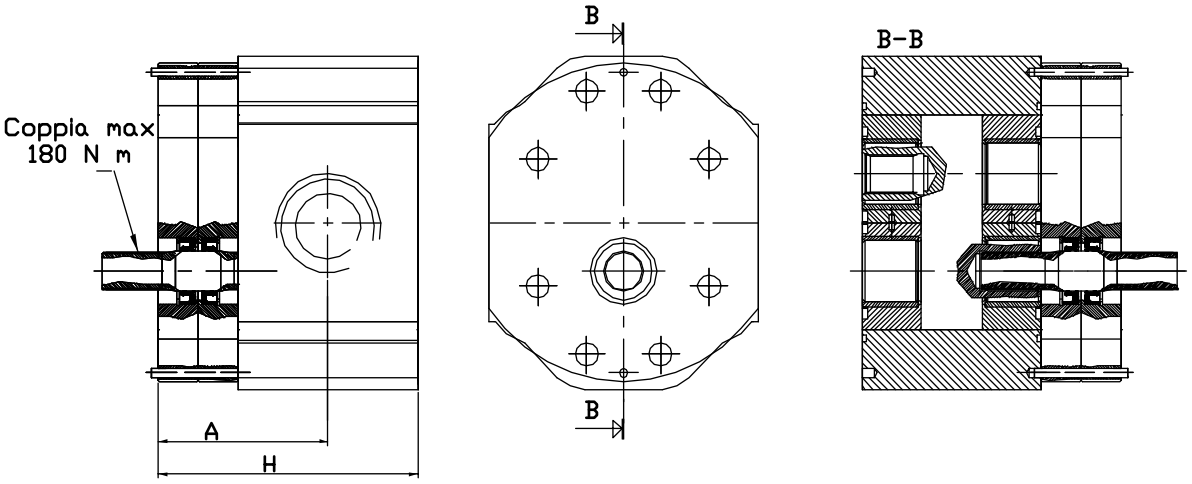
S	Anti-clockwise
D	Clockwise

- P — Body for flanges

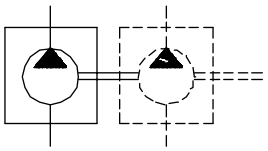
AVAILABLE FOR QUANTITIES

POMPE GRUPPO 3 INTERMEDIE PER TANDEM

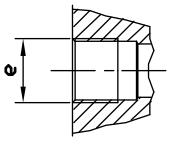
VERSIONE: G X X INTERMEDIA



NOTE : Coppia di serraggio viti 48 N·m



Tipo	Cilindrata (cc/giro)	Pressione massima continua P1 (bar)	Pressione di punta P3 (bar)	Velocita' massima (giri/min.)	Dimensione A (mm)	Dimensione H (mm)	Bocca di aspirazione e	Bocca di mandata e
OT 300 P22	22	260	300	3000	71.4	106.8	G 1	G 3/4
OT 300 P28	28	260	300	3000	73.7	111.4	G 1	G 3/4
OT 300 P32	32	260	300	3000	75.2	114.4	G 1	G 3/4
OT 300 P38	38	240	280	3000	77.5	119.0	G 1	G 3/4
OT 300 P42	42	240	280	3000	79.0	122.0	G 1	G 3/4
OT 300 P48	48	240	280	3000	86.3	136.6	G 1	G 3/4
OT 300 P53	53	220	250	3000	88.2	140.4	G 1	G 3/4
OT 300 P63	63	200	240	2100	92.0	148.0	G 1+1/4	G 3/4
OT 300 P73	73	180	210	2100	95.9	155.7	G 1+1/4	G 1
OT 300 P82	82	170	200	2100	99.3	162.6	G 1+1/4	G 1
OT 300 P90	90	150	180	2100	102.3	168.6	G 1+1/4	G 1



ESEMPIO DI CODICE D'ORDINAZIONE

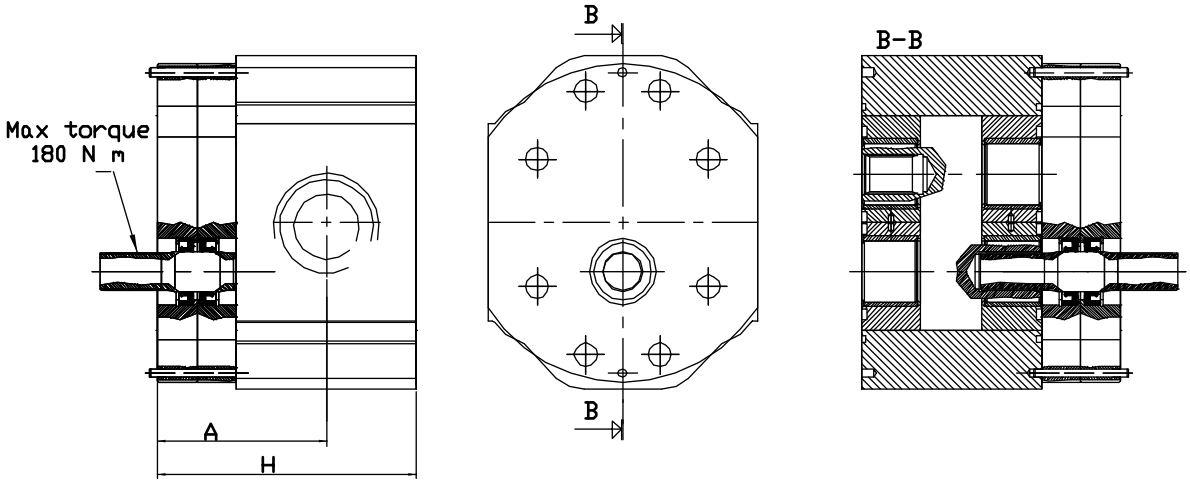
OT300 P 22 S / P X X INTERMEDIA

- Serie
- Pompa
- Cilindrata (vedere tabella)
- Rotazione: S Sinistra; D Destra
- Corpo con bocche filettate BSP

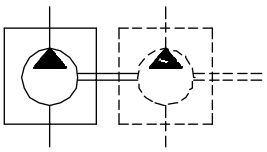
DISPONIBILE PER QUANTITA'

INTERMEDIATE GROUP 3 PUMPS FOR TANDEM UNITS

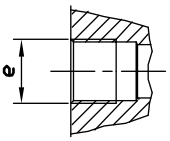
VERSION: P X X INTERMEDIATE



NOTE : Screw tightening torque 48 N m



Type	Displacement (cc/rev)	Max working pressure P1 (bar)	Peak pressure P3	Max speed (r.p.m)	Dimension L (mm)	Dimension M (mm)	Inlet port e	Outlet port e
OT 300 P22	22	260	300	3000	71.4	106.8	G 1	G 3/4
OT 300 P28	28	260	300	3000	73.7	111.4	G 1	G 3/4
OT 300 P32	32	260	300	3000	75.2	114.4	G 1	G 3/4
OT 300 P38	38	240	280	3000	77.5	119.0	G 1	G 3/4
OT 300 P42	42	240	280	3000	79.0	122.0	G 1	G 3/4
OT 300 P48	48	240	280	3000	86.3	136.6	G 1	G 3/4
OT 300 P53	53	220	250	3000	88.2	140.4	G 1	G 3/4
OT 300 P63	63	200	240	2100	92.0	148.0	G 1+1/4	G 3/4
OT 300 P73	73	180	210	2100	95.9	155.7	G 1+1/4	G 1
OT 300 P82	82	170	200	2100	99.3	162.6	G 1+1/4	G 1
OT 300 P90	90	150	180	2100	102.3	168.6	G 1+1/4	G 1



EXAMPLE OF ORDERING CODE

OT300 P 22 S / P X X INTERMEDIATE

- Series
- Pump
- Displacement (see above table)
- Rotation
  - S Anti-clockwise
  - D Clockwise
- Body with threated ports (BSP)

AVAILABLE FOR QUANTITIES