Part number:

HYDROMA
HYDRAULICKÉ SYSTÉMY

HIDROMA SISTEMS
UKŁADY HYDRAULICZNE

HYDROMA
ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

SPECIFICATIONS

Pump Model			TPV 28	TPV 34	TPV 38	TPV 41
Theorical max. displacement	$V_{max.}$	cm^3/min.	28	34	38	41
Flow rating(1)	Q	l/min.	101	122	137	148
Power rating(1)	W	kW	42	51	57	61
Charge pump displacement	V_{bp}	cm^3/n	14			
Rated pressure	$P_{nom.}$	bar	280			
Max. pressure	$P_{max.}$	bar	320			
Charge pressure(2)	P_{bp}	bar	15-26			
Absolute suction pressure(3)	P_s	bar	>= 0,8			
Cold start absolute suction pressure	P_{s1}	bar	>= 0,5			
Max. case pressure	P_{case}	bar	1,5			
Moment of inertia	J	kgm^2	0,0029			
Minimum speed	$n_{min.}$	n/min.	700			
Rated speed	$n_{max-cont.}$	n/min.	3.600			
Max. speed	$n_{max-int.}$	n/min.	3.900			
Max. fluid temperature	T	°C	80			
Fluid viscosity	v	mm^2/sec.	15-35			
Fluid contamination			18/15 according ISO 4406 (Class NAS 9)			
Mass (single pump with hydr-servo)	m	kg	23			
Mass (tandem pump with hydr-servo)	m	kg	48			

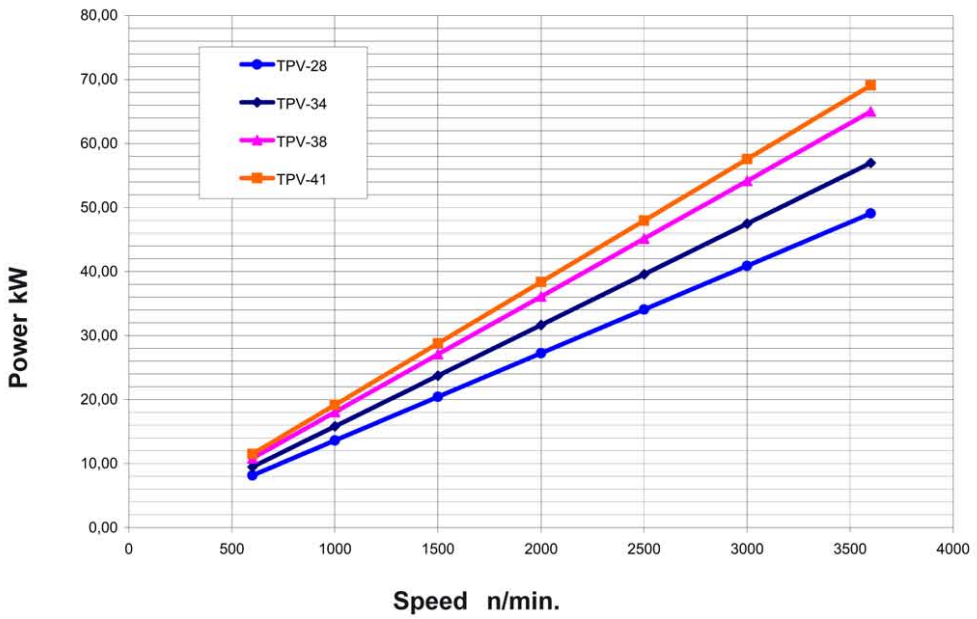
(1) $[V_{max.}\text{-}n_{max.}]$

(2) 1500 n/min.

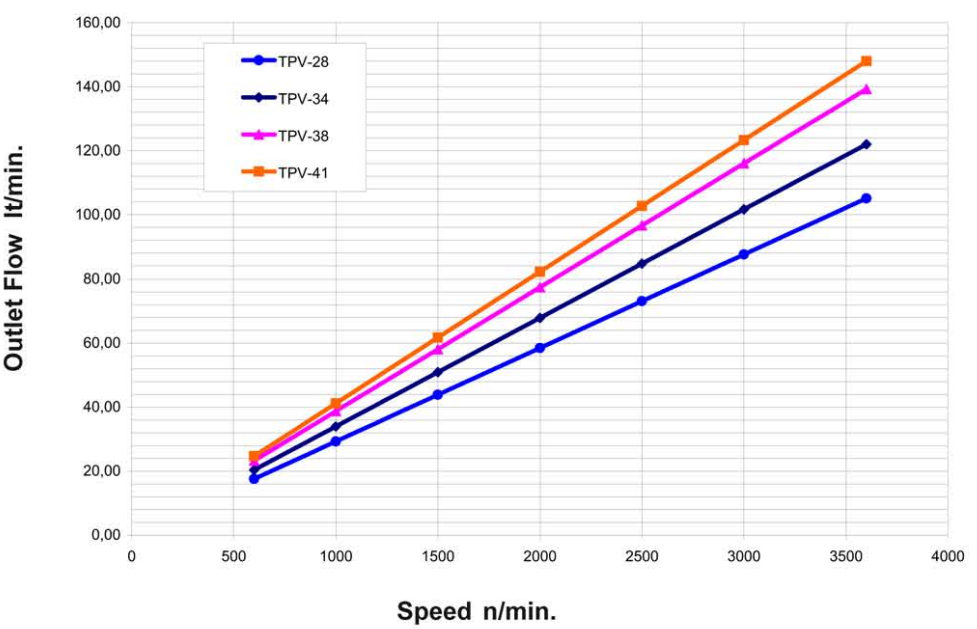
(3) v <= 30 mm^2/s

PERFORMANCE (Indicative Data)

Power at 280 bar (max displacement)

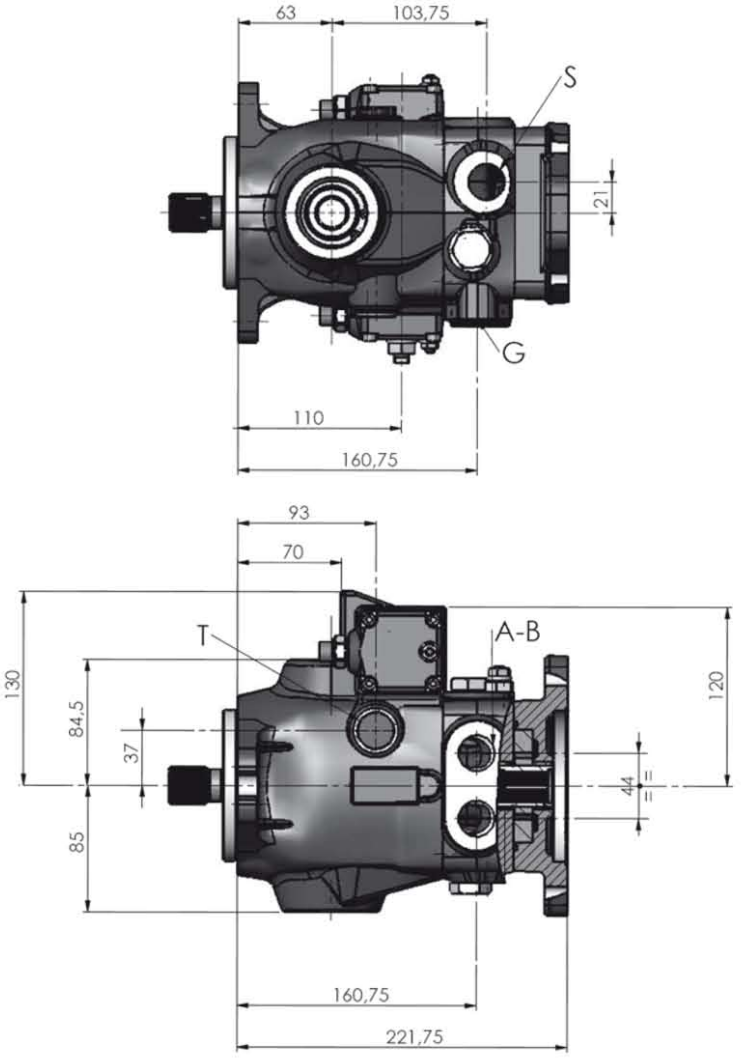


Outlet Flow at 280 bar (max displacement)

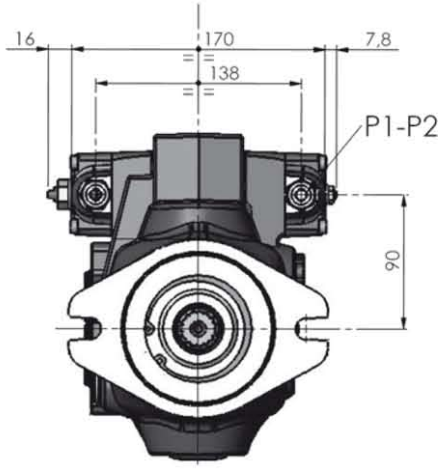


SINGLE PUMP - Hydraulic Remote Servo-Control

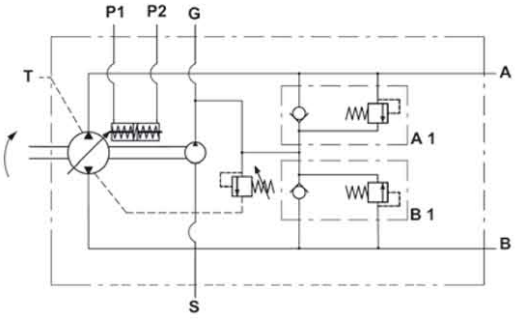
INSTALLATION DRAWING



See shaft and flange details



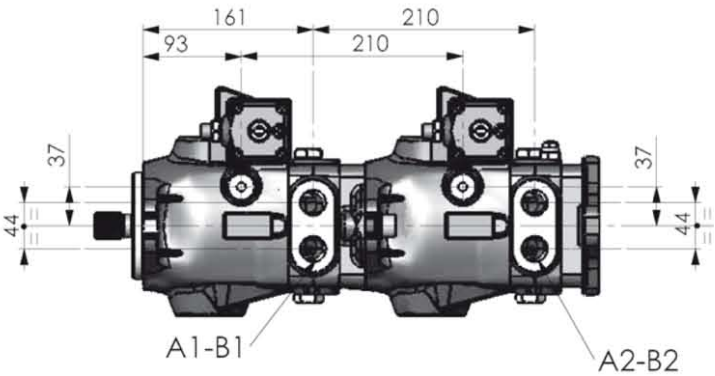
Hydraulic diagram



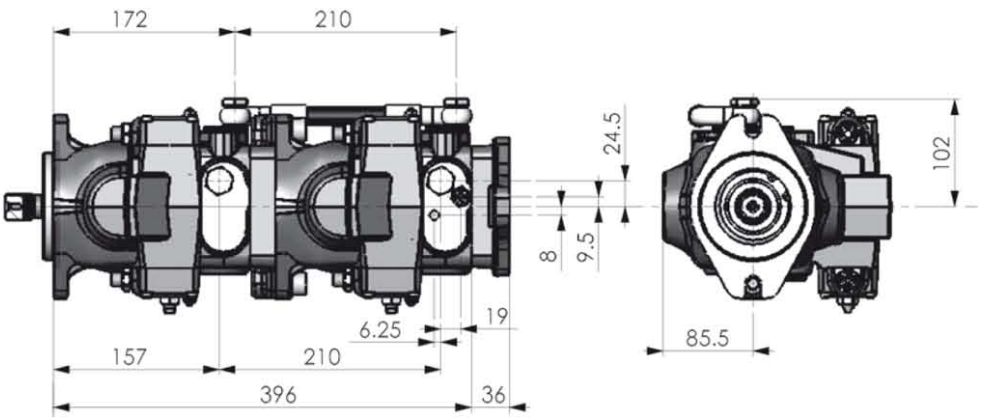
TPV 4000 CONNECTIONS		
A-B	SERVICES	3/4" BSP
T	DRAIN	1/2" BSP
S	SUCTION	3/4" BSP
G	CHARGE SYSTEM	1/4" BSP
P1-P2	SERVO CONTROL PORTS	1/4" BSP

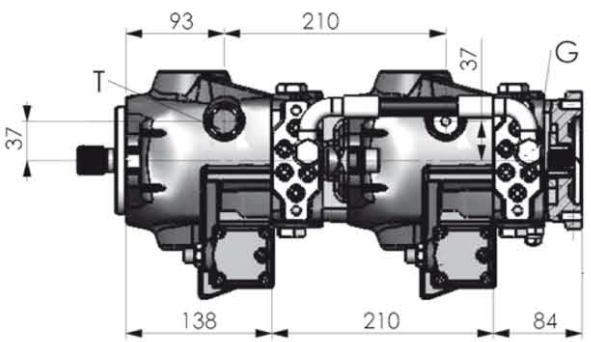
TANDEM PUMP - Hydraulic Remote Servo-Control

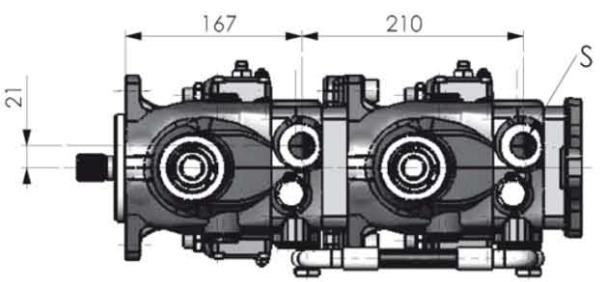
INSTALLATION DRAWING



See shaft and flange details

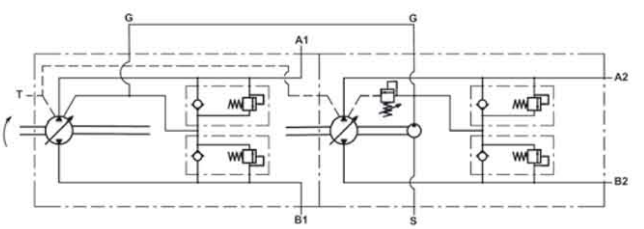






TPVT 4000 CONNECTIONS		
A1-B1	SERVICES	3/4" BSP
A2-B2	SERVICES	3/4" BSP
T	DRAIN	1/2" BSP
S	SUCTION	3/4" BSP
G	CHARGE SYSTEM	1/4" BSP
U	GAUGE PORTS	1/8" BSP
P1-P2	SERVO CONTROL PORTS	1/4" BSP

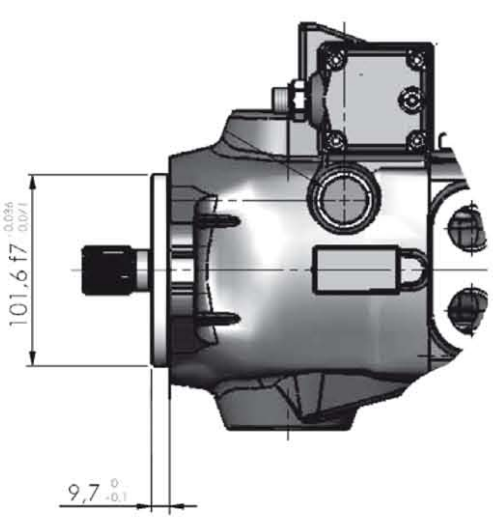
Hydraulic diagram

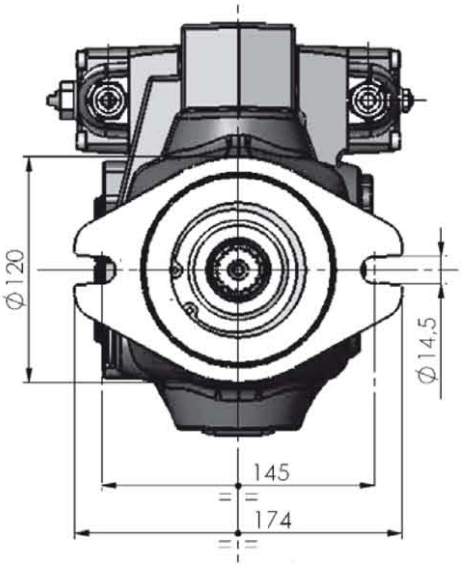


Mounting Flange and Shaft Options

FLANGES

SAE B - 2 holes flange F2

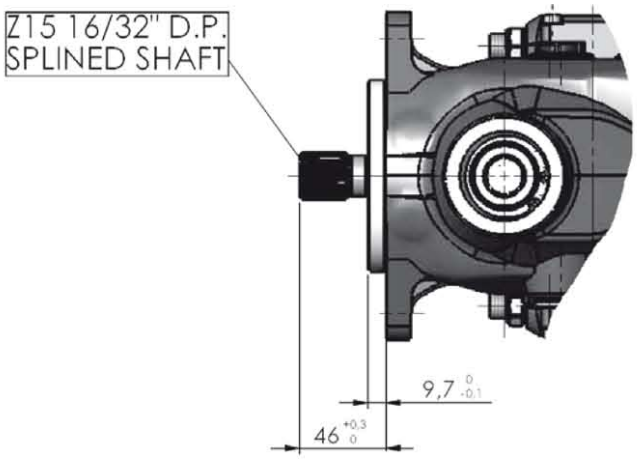




SHAFT

Splined shaft Z = 15 SS5

Max. torque = 360 Nm

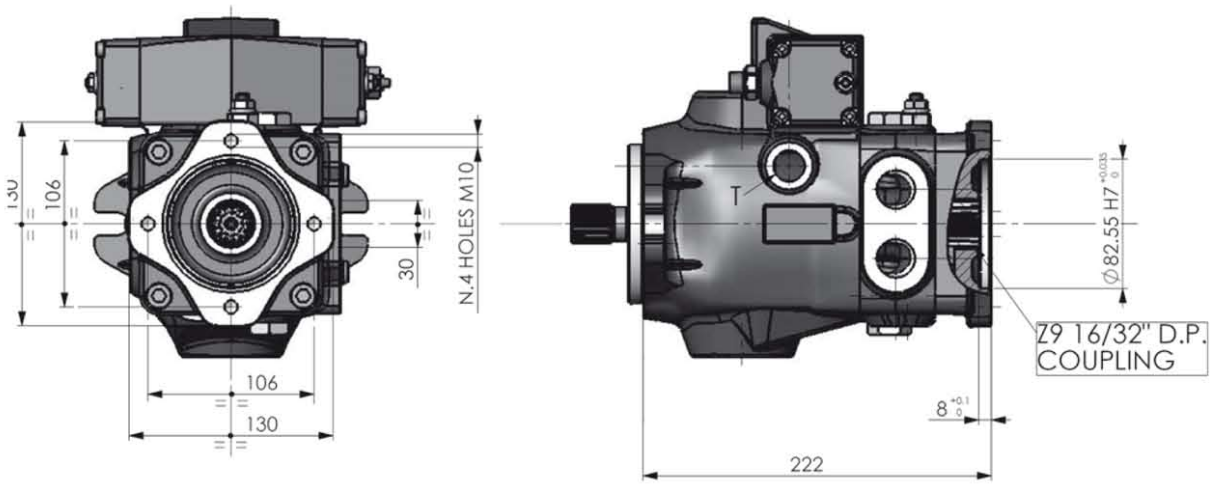


Attention: for the application of multiple pumps the total absorbed torque must not exceed the indicated value.

REAR PUMP FLANGE CONNECTIONS
(Pump with Hydraulic Remote Servo-Control)

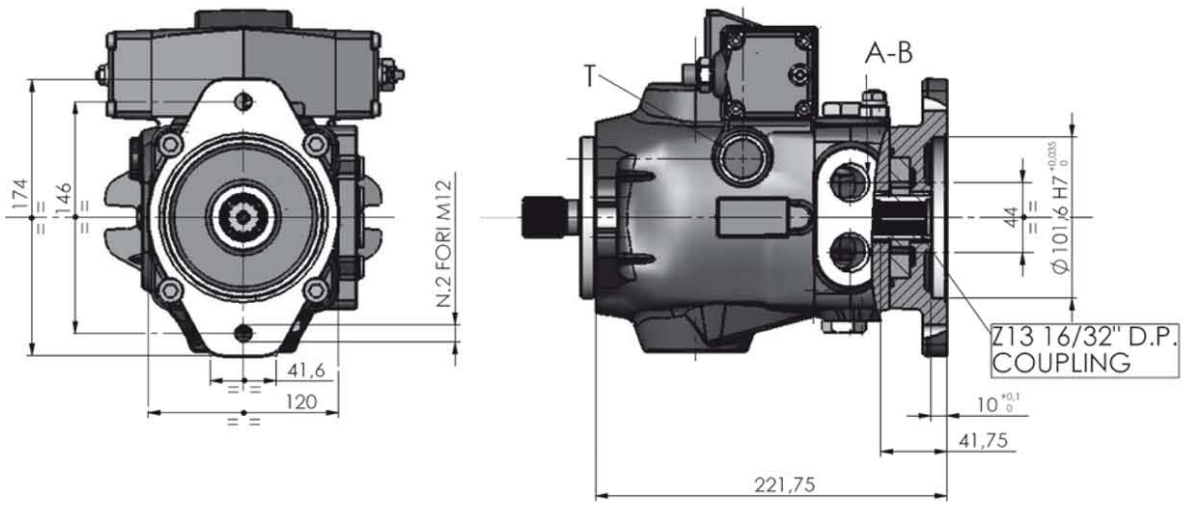
SAE A - 4 holes **SA**

Max. torque = 80 Nm



SAE B - 2 holes **SB**

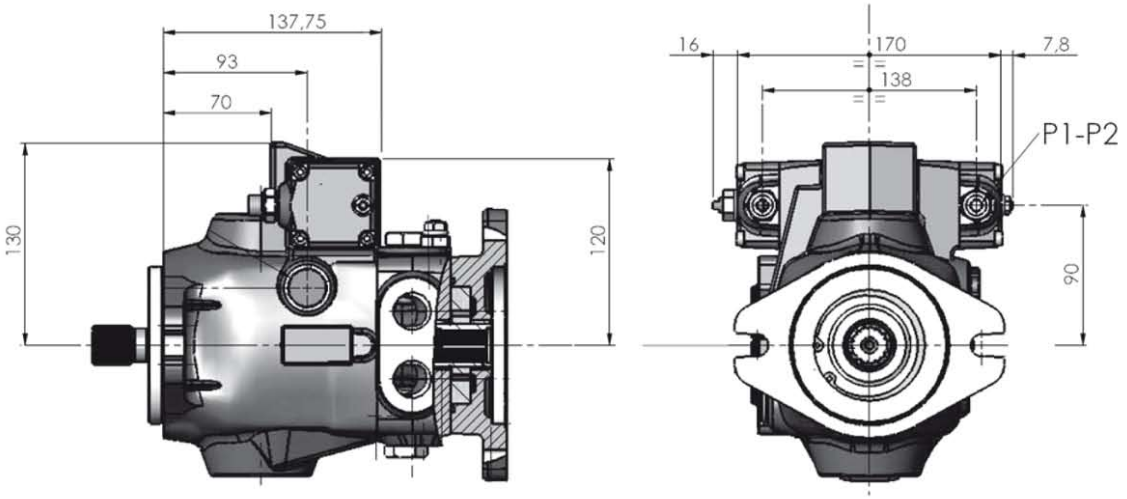
Max. torque = 230 Nm



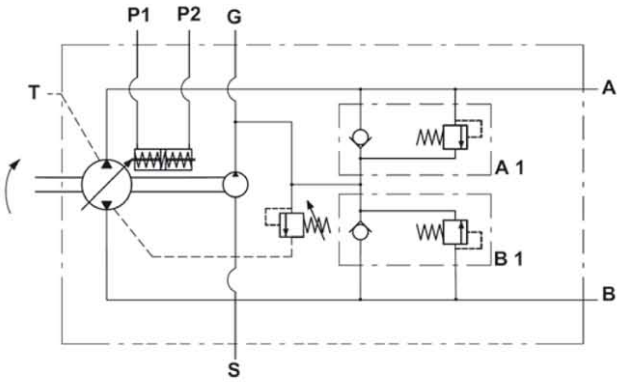
CONTROL DEVICES

Hydraulic Remote Servo-Control SHI

The displacement pump variation is obtained by adjusting the pressure on the P1 and P2 servo control connections by means of a hydraulic proportional joystick (containing pressure reducing valves).
The servo control supply can be obtained by taking pressure from the charge pump (G connection).
The servo control return time can be adjusted by inserting a restrictor on the joystick supply line.
The servo control operation curve in both control directions goes from 2 to 12 bar (tollerance +- 5%)
The adjustement curve of the hydraulic joystick has to be (2-12 bar) plus with final step.



Hydraulic diagram



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P1-P2	SERVO CONTROL PORTS	1/4" BSP

Hydraulic Remote Servo-Control Position

OA

OB

ORDER CODE

4000	TPV	28	-	CR	SS5	F2	SHI	OA	-	15	00	C	000	00
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

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0 - Pump series

4000 = TPV pump 4000 (Ex 28-41)

1 - Pump model

TPV = Closed loop circuit single pump 8
TPVT = Closed loop circuit tandem pump 9
TPVS* = Closed loop circuit special pump upon customer request

2 - Pump displacement (single or primary pump) 6

28 = 28 cm^3/n
34 = 34 cm^3/n
38 = 38 cm^3/n
41 = 41 cm^3/n

3 - Tandem pump displacement (secondary pump) 6

28 = 28 cm^3/n
34 = 34 cm^3/n
38 = 38 cm^3/n
41 = 41 cm^3/n

4 - Pump Rotation (shaft end view)

CR = Clockwise Rotation (right)

5 - Shaft (mounting side) 10

SS5 = Splined shaft Z 15 - 16 / 32 D.P.

6 - Mounting side flange 10

F2 = SAE B 2 holes - pilot diam. 101,6 mm.

7 - Controls

SHI = Hydraulic Remote Servo-Control 12
SEI1 = Electric Remote Servo-Control (12 V dc) 13
SEI2 = Electric Remote Servo-Control (24 V dc) 13

8 - Control devices position (single or primary pump) 12-13

OA = Position A
OB = Position B

9 - Control devices position (secondary pump) 12-13

OA = Position A
OB = Position B

ORDER CODE

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10 - Relief valve pressure setting

15 = 150 bar
18 = 180 bar
20 = 200 bar
25 = 250 bar
30 = 300 bar
35 = 350 bar

11 - Charge pump

00 = Without charge pump
10 = Standard charge pump 10 cm^3/n - pressure 16 bar (1500 n/min)
14 = Standard charge pump 14 cm^3/n - pressure 16 bar (1500 n/min)

12 - Rear pump connection option

C = Closed (without rear fitting)
SA = SAE A 2 holes mounting flange (female shaft) 11
SB = SAE B 2 holes mounting flange (female shaft)

13 - Auxiliary gear pump displacement

000 = Without pump

Group 2 SAE A

S 204 = 4,2 cm^3/n	**S 206** = 6,0 cm^3/n	**S 209** = 8,4 cm^3/n	**S 211** = 10,8 cm^3/n
S 214 = 14,4 cm^3/n	**S 217** = 16,8 cm^3/n	**S 219** = 19,2 cm^3/n	**S 222** = 22,8 cm^3/n
S 226 = 26,2 cm^3/n	**S 230** = 30,0 cm^3/n	**S 240** = 40,0 cm^3/n	

Group 3 SAE B

S 315 = 15,0 cm^3/n	**S 318** = 18,0 cm^3/n	**S 321** = 21,0 cm^3/n	**S 327** = 27,0 cm^3/n
S 332 = 32,0 cm^3/n	**S 338** = 38,0 cm^3/n	**S 343** = 43,0 cm^3/n	**S 347** = 47,0 cm^3/n
S 351 = 51,0 cm^3/n	**S 354** = 54,0 cm^3/n	**S 361** = 61,0 cm^3/n	**S 364** = 64,0 cm^3/n
S 370 = 70,0 cm^3/n	**S 374** = 74,0 cm^3/n	**S 390** = 90,0 cm^3/n	

14 - Optional

00 = Without optional
RB = Full resistant front bearing
SB = Screw By-pass
SP = Multiple pump support

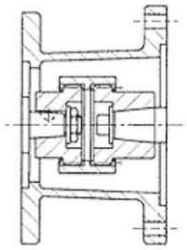
ACCESSORIES

Hydraulic Gear Pump Gr2 - SAE A - 2 holes **SA**

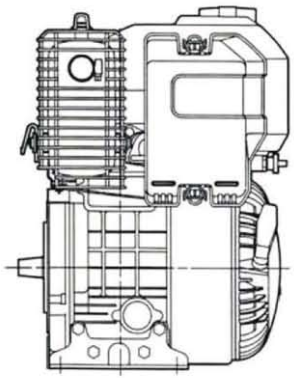
For more detailed information ask for
catalogue HT 15 / F / 200 / 0703 / E

Flanges and Couplings for Gasoline and Diesel engines

FLANGES AND COUPLINGS



GASOLINE OR DIESEL ENGINES



For more detailed information ask for catalogue HT 39 / D / 101 / 1206 / IE