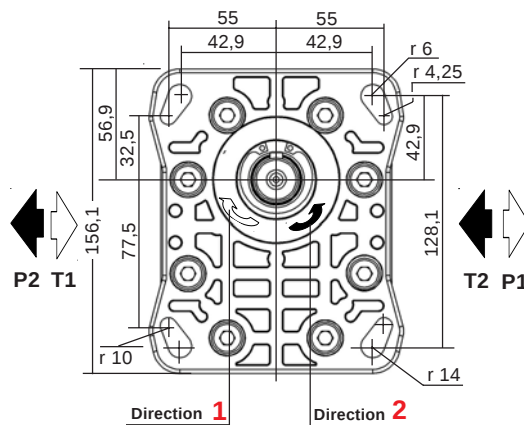
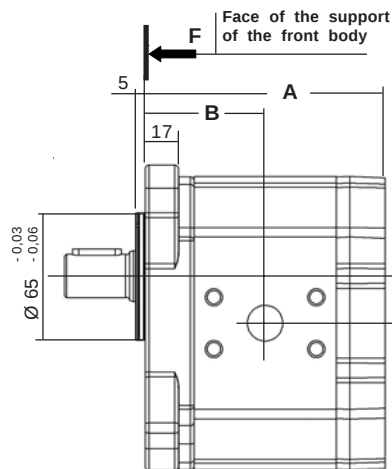
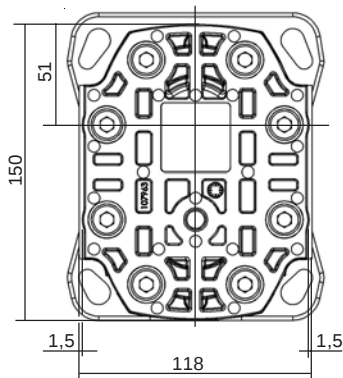




For CODIFICATION, see data sheet **F.T R 0011**



CHOICE of the Capacity	Dimensions	
	A	B
020 - 025 - 031 - 040	122,7	61,3
050 - 060	149,2	74,5
071 - 080 - 090 - 100	169,2	84,2

Multiples geared pumps, see data sheet **F.T 30 1356**

Seal kits:

Nitrile: **K5074041**

Viton: **K5074042**

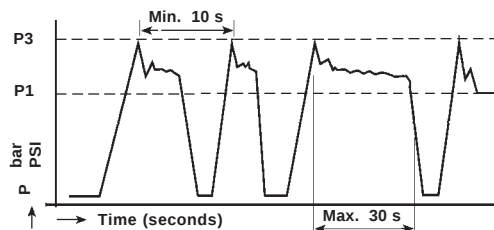
(For the manufacturings from october 1991)

MODEL	Capacity	PEACK PRESSURE		MAX WORKING PRESSURE		Maxi speed RPM	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and N.m	Approx. weight Kg
	cc / rev	bar	PSI	bar	PSI		at 1500 RPM	at Maxi speed			
							l / min	l / min			
3020	21,1	275	3987	235	235	3000	31,65	63,3	4	3,74	5,6
3025	25,8	275	3987	235	235	3000	38,7	77,4	4,90	4,63	5,6
3031	32,1	275	3987	235	235	3000	48,15	96,3	6,10	5,73	5,6
3040	41,5	275	3987	235	235	3000	62,25	124,5	7,85	7,37	5,7
3050	51,65	250	3625	215	215	3000	77,47	154,9	9,77	9,21	6,9
3060	62,6	225	3262	190	190	2500	93,9	156,5	11,85	11,05	7
3071	73,55	225	3262	190	190	2500	110,32	183,8	13,92	13,08	7
3080	82,95	200	2900	170	170	2200	124,42	182,4	15,59	14,60	7,1
3090	92,95	150	2175	130	130	2000	139,42	185,9	17,47	16,47	7,8
3100	103,9	150	2175	130	130	2000	155,85	207,8	19,40	18,17	8

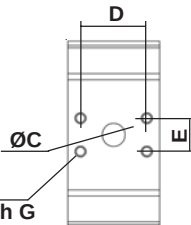
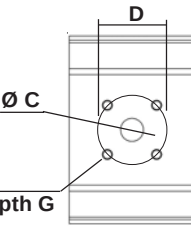
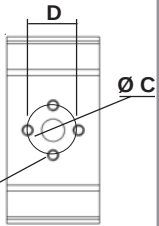
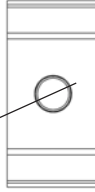
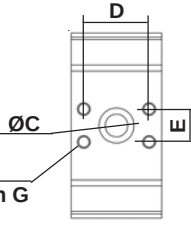
P1 Maximum pressure in continuous duty.

Maximum Pressure **P**

P3 Allowable peak pressure.



CHOICE of the IMPLANTATIONS of PORTS and RECOMMENDED FLANGES

	Capacity	INLET (T)					OUTLET (P)					CATALOGUE ° 70			
												Ref. of RECOMMENDED FLANGES (for speed 1500 rev / min)			
		ØC	D	E	ØF	G	ØC	D	E	ØF	G	INLET (T)		OUTLET (P)	
H (HPI) 	3020 to 3040	28	52,4	26,2	M8	16	18	52,4	26,2	M8	16	3020 1" N: 3.500072	3020 1/2" N: 3.500070	3025 BSP V: 3.505060	3025 3/4" N: 3.500071
	3050 3060	42	35,6	69,8	M8	16	22	52,4	26,2	M8	16	3025 BSP V: 3.505061	3025 3/4" N: 3.500071	3025 3/4" N: 3.500071	3025 3/4" N: 3.500071
	3071 to 3100	42	35,6	69,8	M8	16	24	52,4	26,2	M8	16	3025 BSP V: 3.505061	3025 3/4" N: 3.500071	3025 3/4" N: 3.500071	3025 3/4" N: 3.500071
C (Square) 	3020 to 3040											1" 1/4 BSP N: 3.500492 V: 3.505066		1" BSP N: 3.500072 V: 3.505060	
	3050 3060	28	55		M8	17	18	55		M8	17				
	3071 to 3100														
B (Italian) 	3020 to 3040	27	51		M10	17	18	40		M8	17				
	3050 3060														
	3071 to 3100														
U (Threaded SAE J 475) 	3020 to 3040				1' 5/16 -12 UNF	19				1' 1/16 -12 UNF	19				
	3050 3060				1' 5/8 -12 UNF	19				1' 5/16 -12 UNF	19				
	3071 to 3100														
Y (ISO 6162) 	3020 to 3040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17				
	3050 3060	42	69,8	35,6	M14	17	34	52,4	26,2	M10	17				
	3071 to 3100														
X (without port) 	3020 to 3040	Only with rear body Type A													
	3050 3060														
	3071 to 3100														

Dimensions readings and approximative characteristics subject to modifications.

F.T 30 11322 2/4

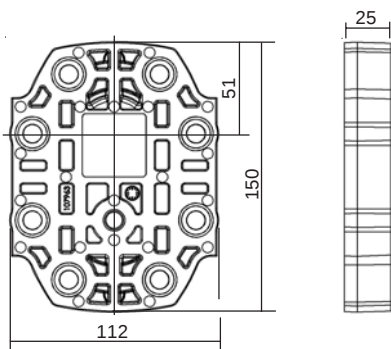
Consult us for availability

[home](#)
[contents](#)
[previous](#)
[next](#)
[main dimensions](#)

REAR BODIES

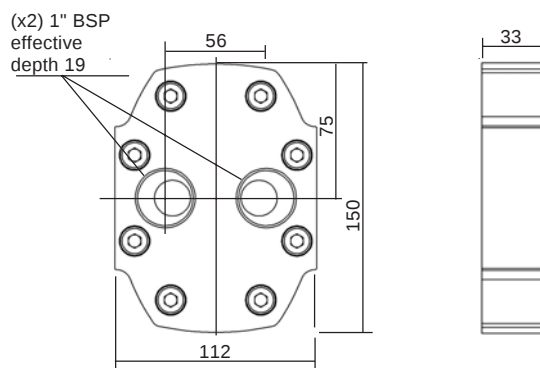
L

Standard



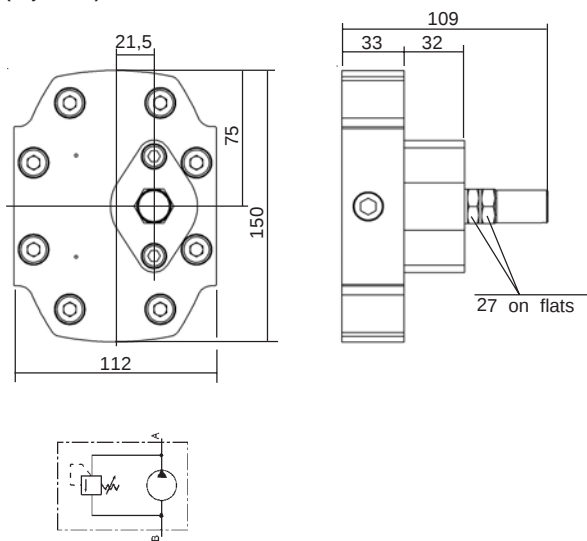
A

with ports



V

Low pressure relief valve
(Adjustable) Internal return



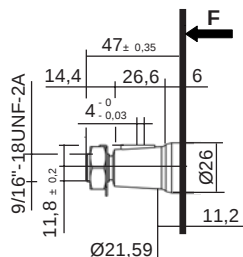
Dimensions readings and approximative characteristics subject to modifications.

DRIVING SHAFTS

Tapered

10

B03 Taper 1 / 8



Delivered with Nut and lock washer Ref.: K100734
Ref.: K103945

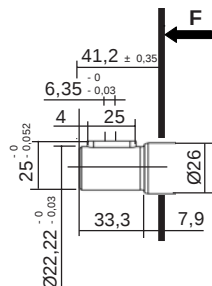
Maxi transmissible torque

530 N.m

Straight keyed

20

A02



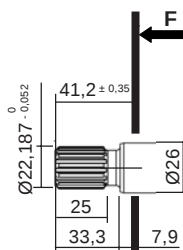
Maxi transmissible torque

290 N.m

Splined

30

A02



Involute spline SAE Standard
13 teeth - 7/8" -
Diametral Pitch 16/32
30° Pressure angle

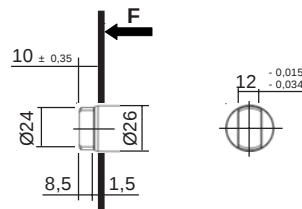
Maxi transmissible torque

390 N.m

Tang

40

C04

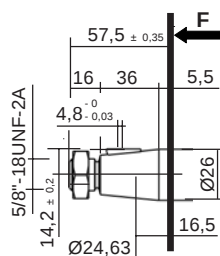


Maxi transmissible torque

70 N.m

Dimensions readings and approximative characteristics subject to modifications.

B04 Taper 1 / 8

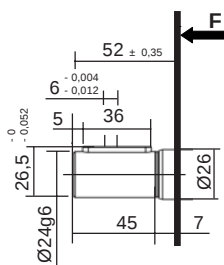


Delivered with Nut Ref.: K101877

Maxi transmissible torque

800 N.m

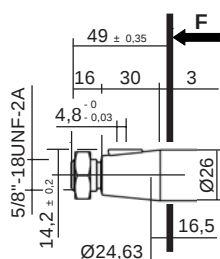
C04



Maxi transmissible torque

320 N.m

C04 Taper 1 / 5



Delivered with Nut Ref.: K101712

Maxi transmissible torque

750 N.m

F.T 30 1322 4/4

Consult us for availability

[home](#)

[contents](#)

[previous](#)

[next](#)

[main dimensions](#)

PUBLISHING 17 / 03 / 2011

MODEL	Capacity cc / rev	PEACK PRESSURE bar PSI		MAX WORKING PRESSURE bar PSI		Maxi speed RPM	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and N.m	Approx. weight Kg
							at 1500 RPM	at Maxi speed			
							l / min	l / min			

3020	21,1	275	3987	235	235	3000	31,65	63,3	4	3,74	5,6
3025	25,8	275	3987	235	235	3000	38,7	77,4	4,90	4,63	5,6
3031	32,1	275	3987	235	235	3000	48,15	96,3	6,10	5,73	5,6
3040	41,5	275	3987	235	235	3000	62,25	124,5	7,85	7,37	5,7
3050	51,65	250	3625	215	215	3000	77,47	154,9	9,77	9,21	6,9
3060	62,6	225	3262	190	190	2500	93,9	156,5	11,85	11,05	7
3071	73,55	225	3262	190	190	2500	110,32	183,8	13,92	13,08	7
3080	82,95	200	2900	170	170	2200	124,42	182,4	15,59	14,60	7,1
3090	92,95	150	2175	130	130	2000	139,42	185,9	17,47	16,47	7,8
3100	103,9	150	2175	130	130	2000	155,85	207,8	19,40	18,17	8

The pump can only run in one way rotation (Precise the direction of rotation on order).

The working cycles hereunder are possible with hydraulic mineral oil for viscosities between 12 and 150 cSt (65,2 and 700 SUS).

The minimum viscosity of 12 cSt (65,2 SUS) is available for a maximum temperature in the hydraulic circuit .

Working temperature: - 20 °C (4 °F) to + 80 °C (176 °F) (140 °C (284 °F) with Viton shaft seal).

Full flow filtration: 10 to 15 microns at the pressure port of the pump or on the return circuit.

Filtration on the suction side: 125 microns.

Pressure at the inlet of the pump:

- Minimum 0,7 bar absolute (Maxi depressure 300 millibar with regard to the air pressure).
- Maximum 2 bar absolute or 1 bar over the air pressure.

The hereabove characteristics concern the pumps driven by elastic couplings perfectly aligned without any external radial or axial force.

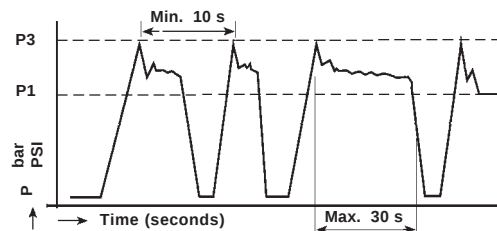
For any other coupling, see technical data sheet F.T R 0009.

For use at maximum working conditions and/or intensive cycles, thanks to consult our technical sales service for validation.

P1 Maximum pressure in continuous duty.

Maximum Pressure **P**

P3 Allowable peak pressure.



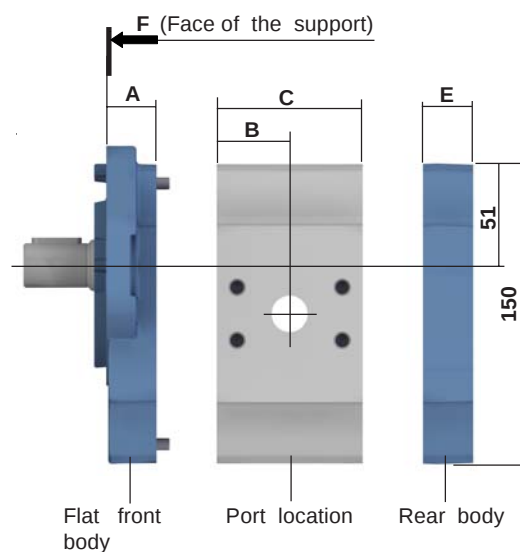
Consult us for availability

FLAT FRONT BODIES

Flat front bodies:	A
AAN / AAK - BAN	25
CBN / CBK - DBN / DBK	

Port location (capacity):	B	C
3020 - 3025 - 3031 - 3040	36,3	72,7
3050 - 3060	49,5	99,2
3071 - 3080 - 3090 - 3100	59,2	119,2

Rear bodies:	E
L	25
A - V	33

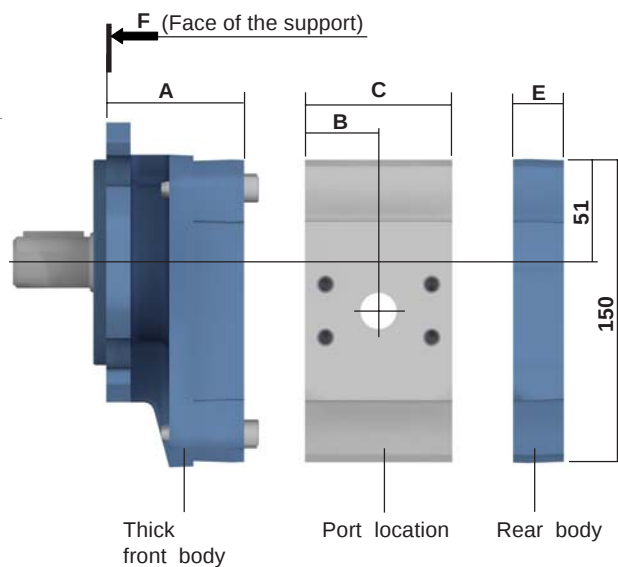


THICK FRONT BODIES

Thick front bodies:	A
AAP / AEP - AAR / AER	68
AAX - ABP / ABR	
ADP / ADR - ADX / ADZ	
ZFC	72

Port location (capacity):	B	C
3020 - 3025 - 3031 - 3040	36,3	72,7
3050 - 3060	49,5	99,2
3071 - 3080 - 3090 - 3100	59,2	119,2

Rear bodies:	E
L	25
A - V	33



Dimensions readings and approximative characteristics subject to modifications.

F.T 30 1312 2/10



Consult us for availability

home

contents

previous

next

main dimensions

P

II Sign

III Sign

IV Sign

3

VI Sign

VII Sign

VIII Sign

IX Sign

X Sign

XI Sign

XII Sign

For CODIFICATION, see data sheet **F.T R 0011**

DIRECTION of ROTATION (II Sign)		FLAT FRONT BODIES (III and IV Sign)	CAPACITY (V and VI Sign)	PORT LOCATION (VII Sign)						REAR BODIES (VIII Sign)				DRIVING SHAFTS (IX , X and XI Sign)			
P 1	P 2			H	C	B	U	X	Y	L	A	V	J*	TAPERED 10	STRAIGHT KEYED 20	SPLINED 30	TANG 40
X	X	AAN / AAK  	3020 3025 3031 3040 3050 3060 3071 3080 3090 3100														
X	X	BAN  															
X	X	CBN / CBK  												10 B03 10 B04 10C04 	20 A02 20 C04 	30 A02 30 C03 	40 C04 
X	X	DBN / DBK  															

LEGENDES

DIRECTION of ROTATION

P1 = Clockwise

P2 = Anti clockwise

FRONT BODIES

A** = Fixing SAE and ISO

BAN = Fixing English and Italian

CB* = Fixing French

DB* = Fixing German

ZFC = Fixing ZF

PORT LOCATION

H = HPI

C = Square location

B = Italian location

U = SAE Threaded ports (Norm J 475)

X = without ports

Y = ISO location (Norm 6162)

REAR BODIES

L = Standard

A = External flow control

V = Low pressure relief valve, internal return

J* = Pre-arrangement for assembling «Module 3»
see F.T 30 1355 page

Dimensions readings and approximative characteristics subject to modifications.

Consult us for availability

P

II Sign

III Sign

IV Sign

3

VI Sign

VII Sign

VIII Sign

IX Sign

X Sign

XI Sign

XII Sign

For CODIFICATION, see data sheet **F.T R 0011**

DIRECTION of ROTATION (II Sign)		THICK FRONT BODIES (III and IV Sign)	CAPACITY (V and VI Sign)	PORT LOCATION (VII Sign)						REAR BODIES (VIII Sign)				DRIVING SHAFT (IX , X and XI Sign)			
P 1	P 2			H			U	X		L	A	V	J*	TAPERED 10	STRAIGHT KEYED 20	SPLINED 30	TANG 40
X	X	AAP / AEP AAR / AER - AAX 	3020 3025 3031 3040 3050 3060 3071 3080 3090 3100														
X	X	ABP / ABR 													 20 A04 20 A05 20 A07	 30 A04 30 A19 30 A20	
X	X	ADP / ADR ADX / ADZ 															
X	X	ZFC 														 30 D04	

LEGENDES

DIRECTION of ROTATION

P1 = Clockwise
P2 = Anti clockwise

FRONT BODIES

A** = Fixing SAE and ISO
BAN = Fixing English and Italian
CB* = Fixing French
DB* = Fixing German
ZFC = Fixing ZF

PORT LOCATION

H = HPI
C = Square location
B = Italian location
U = SAE Threaded ports (Norm J 475)
X = without ports
Y = ISO location (Norm 6162)

REAR BODIES

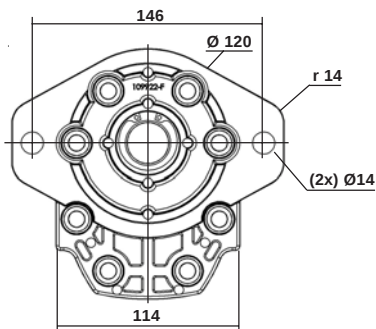
L = Standard
A = External flow control
V = Low pressure relief valve, internal return
J* = Pre-arrangement for assembling «Module 3»
see F.T 30 1355 page

Dimensions readings and approximative characteristics subject to modifications.

 Consult us for availability

FLAT FRONT BODIES

AAN / AAK

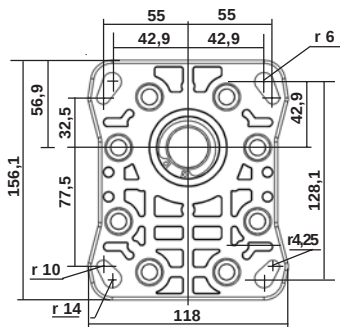


Centering: $\varnothing 101,6 \begin{smallmatrix} 0 \\ -0,05 \end{smallmatrix}$
Thicknesses: 6,35

AAN : F.T 30 1320

AAK : F.T 30 1357

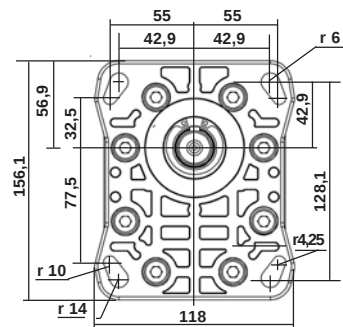
BAN



Centering: $\varnothing 50,78 \begin{smallmatrix} 0 \\ -0,05 \end{smallmatrix}$
Thicknesses: 5

BAN : F.T 30 1321

CBN / CBK

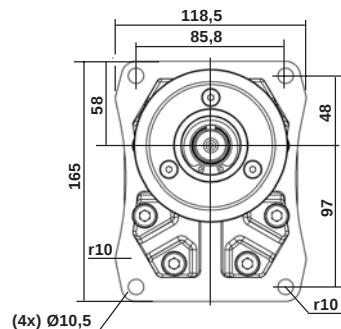


Centering: $\varnothing 65 \begin{smallmatrix} -0,03 \\ -0,06 \end{smallmatrix}$
Thicknesses: 5

CBN : F.T 30 1322

CBK : F.T 30 1358

DBN / DBK



Centering: $\varnothing 105 \begin{smallmatrix} -0,036 \\ -0,071 \end{smallmatrix}$
Thicknesses: 8

DBN : F.T 30 1323

DBK : F.T 30 1359

Dimensions readings and approximative characteristics subject to modifications.

F.T 30 1312 5/10

Consult us for availability

[home](#)

[contents](#)

[previous](#)

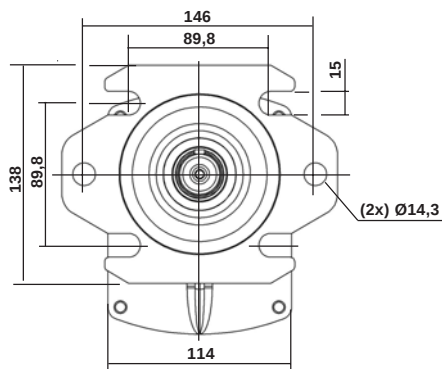
[next](#)

[main dimensions](#)

PUBLISHING 17 / 03 / 2011

THICK FRONT BODIES

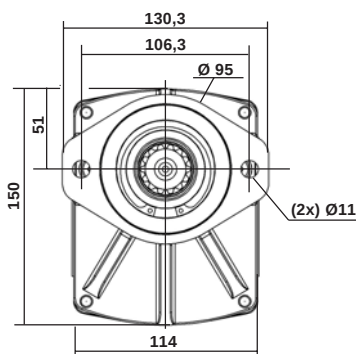
AAP / AEP
AAR / AER
AAX



Centering: $\varnothing 101,6 \begin{smallmatrix} -0 \\ -0,05 \end{smallmatrix}$
Thicknees: 6,35

AAP / AEP : F.T 30 1370
AAR / AER : F.T 30 1373
AAX : F.T 30 1414

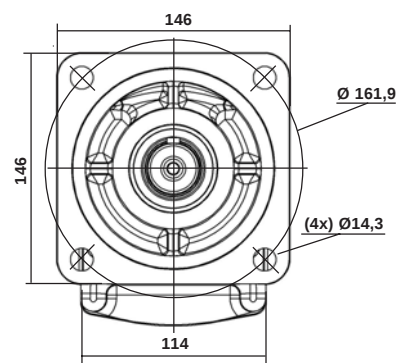
ABP / ABR



Centering: $\varnothing 82,55 \begin{smallmatrix} -0 \\ -0,05 \end{smallmatrix}$
Thicknees: 6,35

ABP : F.T 30 1375
ABR : F.T 30 1376

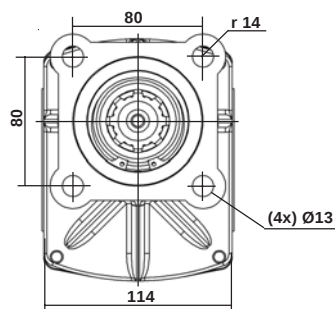
ADP / ADR
ADX / ADZ



Centering: $\varnothing 127 \begin{smallmatrix} -0 \\ -0,05 \end{smallmatrix}$
Thicknees: 6,35

ADP : F.T 30 1371
ADR : F.T 30 1374
ADX : F.T 30 1377
ADZ : F.T 30 1378

ZFC



Centering: $\varnothing 80 \begin{smallmatrix} -0,03 \\ -0,06 \end{smallmatrix}$
Thicknees: 9

ZFC : F.T 30 1372

Dimensions readings and approximative characteristics subject to modifications.

F.T 30 11312 6/10

Consult us for availability

[home](#)

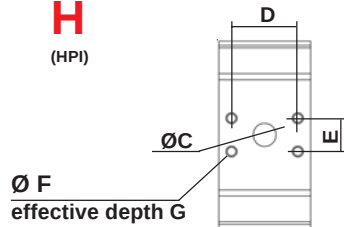
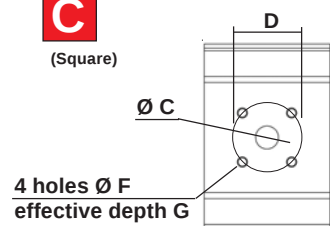
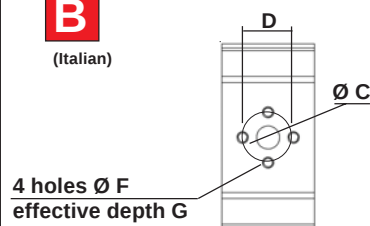
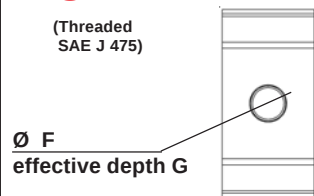
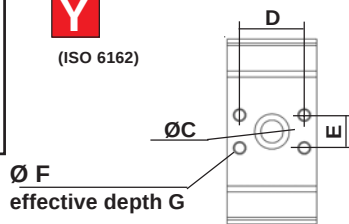
[contents](#)

[previous](#)

[next](#)

[main dimensions](#)

PUBLISHING 17 / 03 / 2011

CHOICE of the IMPLANTATIONS of PORTS and RECOMMENDED FLANGES
H
(HPI)

C
(Square)

B
(Italian)

U
(Threaded
SAE J 475)

Y
(ISO 6162)

X

(without port)



Capacity	INLET (T)					OUTLET (P)					CATALOGUE ° 70 Ref. of RECOMMENDED FLANGES (for speed 1500 rev / min)			
											INLET (T)		OUTLET (P)	
	ØC	D	E	ØF	G	ØC	D	E	ØF	G				
3020 to 3040	28	52,4	26,2	M8	16	18	52,4	26,2	M8	16	3020 1" N: 3.500072 3025 BSP V: 3.505060	3020 1/2" N: 3.500070 3025 BSP V: 3.505058		
3050 3060	42	35,6	69,8	M8	16	22	52,4	26,2	M8	16	1" 1/4 BSP N: 3.500492 V: 3.505066		1" BSP N: 3.500072 V: 3.505060	
3071 to 3100	42	35,6	69,8	M8	16	24	52,4	26,2	M8	16	3071 1" 1/2 N: 3.500493 3080 BSP V: 3.505067	3071 1" N: 3.500072 3080 BSP V: 3.505060		
											3090 1" 1/2 N: 3.500493 3100 BSP V: 3.505067	3090 1" 1/4 N: 3.500103 3100 BSP V: 3.505061		
3020 to 3040														
3050 3060	28	55		M8	17	18	55		M8	17				
3071 to 3100														
3020 to 3040	27	51		M10	17	18	40		M8	17				
3050 3060														
3071 to 3100														
3020 to 3040				1' 5/16 -12 UNF	19				1' 1/16 -12 UNF	19				
3050 3060				1' 5/8 -12 UNF	19				1' 5/16 -12 UNF	19				
3071 to 3100														
3020 to 3040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17				
3050 3060	42	69,8	35,6	M14	17	34	52,4	26,2	M10	17				
3071 to 3100														
3020 to 3040														
3050 3060														
3071 to 3100														
3020 to 3040														
3050 3060														
3071 to 3100														

Only with rear body Type A

Dimensions readings and approximative characteristics subject to modifications.

F.T 30 1312 7/10

Consult us for availability

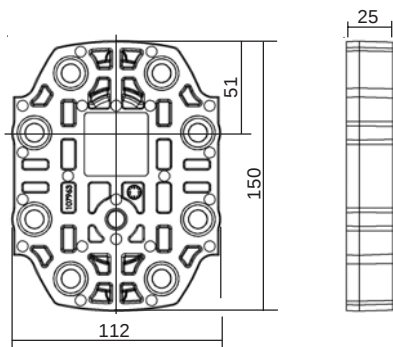
[home](#)
[contents](#)
[previous](#)
[next](#)
[main dimensions](#)

PUBLISHING 17 / 03 / 2011

REAR BODIES

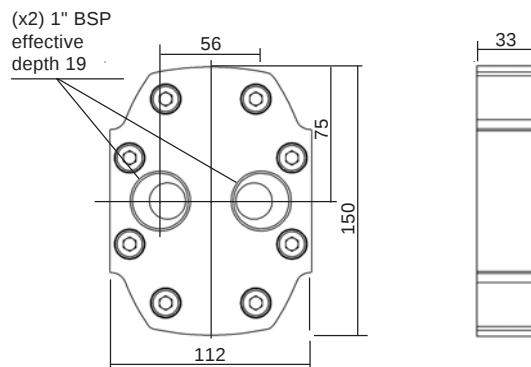
L

Standard



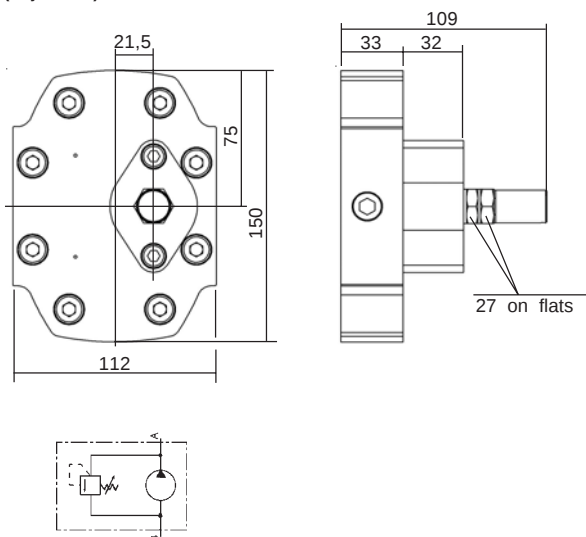
A

with ports



V

Low pressure relief valve
(Adjustable) Internal return



Dimensions readings and approximative characteristics subject to modifications.

F.T 30 1312 8/10

Consult us for availability

[home](#)

[contents](#)

[previous](#)

[next](#)

[main dimensions](#)

PUBLISHING 17 / 03 / 2011

DRIVING SHAFT (FLAT FRONT BODY)

Tapered

10

Straight keyed

20

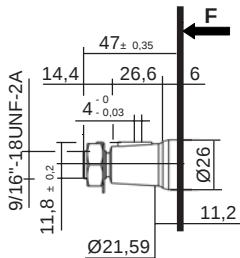
Splined

30

Tang

40

B03 Taper 1 / 8

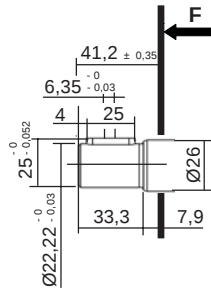


Delivered with Nut Ref.: K100734
and lock washer Ref.: K103945

Maxi transmissible torque

530 N.m

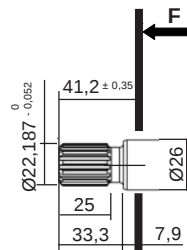
A02



Maxi transmissible torque

290 N.m

A02

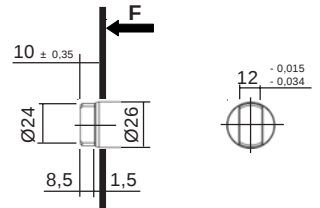


Involute spline SAE Standard
13 teeth - 7/8" -
Diametral Pitch 16/32
30° Pressure angle

Maxi transmissible torque

390 N.m

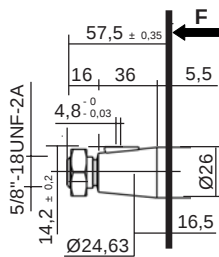
C04



Maxi transmissible torque

70 N.m

B04 Taper 1 / 8

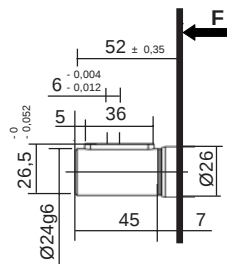


Delivered with Nut Ref.: K101877

Maxi transmissible torque

800 N.m

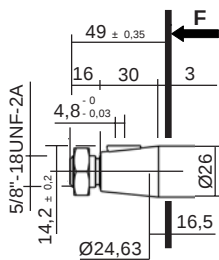
C04



Maxi transmissible torque

320 N.m

C04 Taper 1 / 5



Delivered with Nut Ref.: K101712

Maxi transmissible torque

800 N.m

Dimensions readings and approximative characteristics subject to modifications.

F.T 30 1312 9/10

Consult us for availability

[home](#)

[contents](#)

[previous](#)

[next](#)

[main dimensions](#)

DRIVING SHAFT (THICK FRONT BODY)

Tapered

10

Straight keyed

20

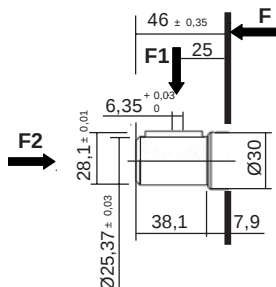
Splined

30

Tang

40

A04



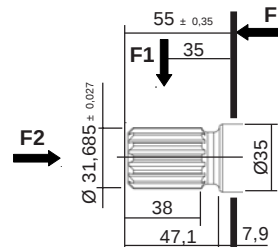
F1 = 120 daN

F2 = 50 daN

Maxi transmissible torque

340 N.m

A04



F1 = 120 daN

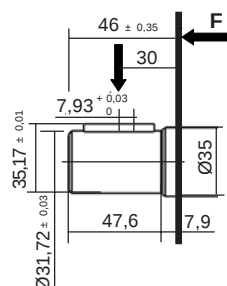
F2 = 50 daN

Involute spline SAE standard
14 teeth - 1" 1/4-
Diametral Pitch 16/32
30° Pressure angle

Maxi transmissible torque

500 N.m

A05



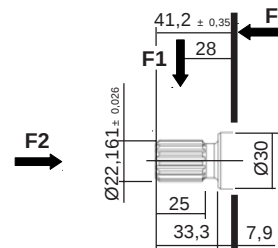
F1 = 120 daN

F2 = 50 daN

Maxi transmissible torque

320 N.m

A19



F1 = 120 daN

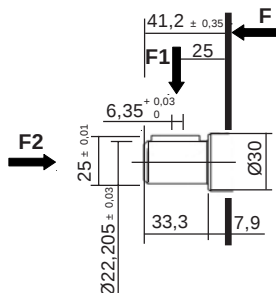
F2 = 50 daN

Involute spline SAE standard
13 teeth - 7/8"
Diametral Pitch 16/32
30° Pressure angle

Maxi transmissible torque

310 N.m

A07



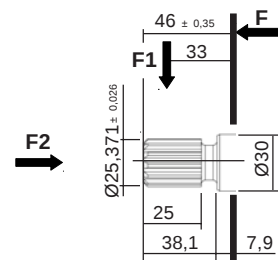
F1 = 140 daN

F2 = 50 daN

Maxi transmissible torque

290 N.m

A20



F1 = 120 daN

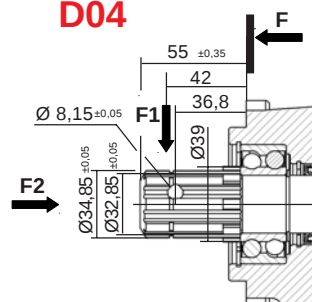
F2 = 50 daN

Involute spline SAE Standard
15 teeth - 1"
Diametral Pitch 16/32
30° Pressure angle

Maxi transmissible torque

490 N.m

D04



F1 = 140 daN

F2 = 50 daN

Parallel spline side
8 x 32 x 36 to Norm NF E 22 141
Pushing Minor diameter

Maxi transmissible torque

480 N.m

Consult us for availability

Our pumps were studied and manufactured to bring you complete satisfaction. They were designed with first quality materials, produced according to modern processes and controlled by strict tests .
However, for the best use, it is absolutely necessary to make some arrangements when mounting and when using.
The major 10 are the following:

1- Mounting

On a rigid support, fixed to the driving motor, make sure of the perfect concentricity of the pump centering with the driving shaft (5/100 maximum, when reading), according to the series.
Pump can be placed in whatever position.

2- Driving

Apart from the driving torque, no radial nor axial effort must be applied on pump shaft to ensure a good efficiency and a good service.
See technical data sheet F.T R 0009 (pump with outrigger bearing excepted).
In an installation with:

- rapid duty cycle.
- frequent pressure variations.
- high working pressure.
- important variation of the hydraulic pump speed.

it is recommended to examin the pump coupling regularly and to slightly lubricate the shaft and the sleeve coupling to avoid frictional oxidation phenomena (fretting).

When the pump is driven with parallel keyed or splined shaft, it is recommended that the shaft be lubricated with bearing grease containing molybdenum disulphide.

3- Pipes

Selecting the correct pipe is very important . Apart from flexible hoses, use preferably cold drawn stel tubes, free from calamine and oxidation inside.

Alll hoses must be properly burred and cleaned. No trace of stranger bodies nor dust must be left; make sure of this before the mounting.

- 1) Never hot-bend hoses so as to avoid oxidation disposals.
- 2) Seal hose or pipe end during storage.
- 3) During the mounting, do not leave them on the floor.
- 4) Make sure of their cleanness until the final mounting.

Suction hose:

It must be made in such a manner so as to get a maximum oil speed of 2,5 m/s, less if possible, mostly for big flows.

Below are some flow indications according to the dimensions of hoses:

1 / 4 "	8 x 13	=	8 l / min
3 / 8 "	12 x 17	=	17 l / min
1 / 2 "	15 x 21	=	27 l / min
3 / 4 "	21 x 27	=	52 l / min
1 "	26 x 34	=	80 l / min
1 " 1 / 4	33 x 42	=	130 l / min
1 " 1 / 2	40 x 49	=	190 l / min
2 "	50 x 60	=	295 l / min
2 " 1 / 2	66 x 76	=	513 l / min
3 "	80 x 90	=	750 l / min

The hose must be as straight as possible. Avoid elbows and connections. Straight angle elbows are prohibited. Narrowing forbidden.

The suction hose must be as short as possible (inferior to 1,50 m); beyond this length, lower the flow speed and ask our Technical Departments for information.

The level between the suction port and the oil must not exceed 0,75 m when the tank is lower down. It is recommended to place the tank on load, that is to say above the pump.

Do not use soft materials to make hoses, depressure and temperature tending to bring sided closer and reduce the flow surface.

Take care of the good screwing of connections to avoid air inlet.

4- Tanks

Tank capacity must be so that in maximum duty, the oil temperature must stabilize at maximum 50 / 60 ° . The quantity of oil that can be taken to ensure the various cycles must be taken into account.

The purpose of a tank, in addition of being a receiver, is to quickly dissipate the calories stored by the circuit when there is no cooling device beside.

Furthermore, it must allow the oil to clarify from the possible emulsions and consequently to avoid the creation of emulsion.

All hoses leading to tank must dive into the fluid.

The fluid coming back to tank must come back to tank very slowly to avoid disturbances on the suction hose.

Tank must be perfectly clean, realized in teme plate or fitted with an hydrocarbon-resistant inside painting.

It must be designed in order that an inspection flap allows a careful cleaning before mounting and during maintenance.

It must be dustproof.

The shape must be simple, either parallelepipedal or cylindrical.

Level control (tightness of connections)

One of the maintenance factors is watching the tank level.

According to the tank capacity, a continuous hose or connector leakage may lead to significant pump oil loss.

Consequences are always damaging to the pump: possible air suction, increased circuit temperature, oil-aging, etc

It is therefore necessary to examine regularly all circuit connections to make sure that there is no leakag.

5- Oil filtration

To ensure the pump a good efficiency and a long life duration, the filtration of the hydraulic fluid is indispensable.

Do not forget that the pump and the various components of the circuit are lubricated by the convoyad fluid.

At suction : Fit the suction hose with a suction strainer submerged in the tank, the filtration efficiency of which shall be 125 μ .

Do not use a suction strainer with a higher efficiency owing to possible underfeeding effects on the pump.

Flow capacity: 1 dm² for a flow of 10 l / min.

At pressure or at tank return : Filter having a filtration capacity of 10 or 15 μ . A metal filter can be used.

6- Air filtration

Most of the pumps are prematurely aging due to abrasion coming from external elements to the tank . It is indispensable to fit the tank with a true air filter and not a simple breather.

The air filter must have a 5 μ filtration efficiency.

All othe parts of the tank must be airproo .

7- Pump Protection

All hydraulic installations must have a pressure relief valve to protect the pump, and this for each direction of rotation.

Several kinds can be employed:

- manually operated.
- differential.
- piloted.

Whatever the type, the following is required:

- quick opening.
- low opening range (lower than 20 bar)
- low closing range (lower than 10 bar)
- It must be pulsationfree.
- Make sure of the flow capacity of the pressure relief valve according to the pump flow.

8- Fluid to be employed

A good quality of oil is to be used.

The more important the duty cycle is, the higher the pressure and driving speed are, the more indispensable it is to choose a good quality of fluid.

An oil with viscosity 4 to 5 °E (30 to 40 cSt) to 40 °C must be used.

Take into account the fact that the higher the circuit temperature is, the more necessary it is to choose a high viscosity oil.

In many applications, motor oils can be used; they bring excellent results. For lubrication and life duration, choose class SAE 20 - 40 multigrade oils.

9- Maximum working temperature

Maintaining an hydraulic circuit requires a control, particularly of the oil temperature.

In general, it is recommended not to exceed 50 to 60 °C. If the latter temperature is exceeded, it would be necessary either to increase the tank volume, or to use a cooler.

Also check whether circuit obstructions or abnormal rolling of some distribution or regulation devices are not causing the heating.

In case the working or ambient temperature conditions require a working temperature higher than 60 °C, it is then necessary to use a higher viscosity oil (for instance, 5 °E at 70 °C instead of 50 °C).

Ambient temperature - 15 °C to + 60 °C.

Also make sure that no external heat supply disturbs the functioning of the pump. In this case, inform our Technical Department who will give you useful advices, among others Viton seals for temperatures between 70 and 130 °C will be recommended (example : hydraulic pump in contact with the carter of a diesel motor that can work under temperatures of 120 °C).

10- Oil aging

The use of an oil that has lost its lubrication properties is a cause for wear and tear of the pump and of the circuit devices.

Temperature variations, rolling in the distribution and regulation valves cause a molecular modification of the fluid in the more or less long-term.

The rapidity of the aging depends on the oil volume in the circuit, on the important temperature variation and on the rolling under pressure.

According to the energy conversion rate of the circuit, it is necessary to provide for changing oil between 500 and 1000 duty hour.

(N.B: analysis in case of a big quantity of oil).

11- Additional information

For any further details, seek advice from our Technical Departments.

TYPE	ISO	CASTROL	ELF	ESSO	FINA
HM	32	HYSPIN AWS 32	ELFOLNA DS 32	NUTO H 32	HYDRAN TS 32
	46	HYSPIN AWS 46	ELFOLNA DS 46	NUTO H 46	HYDRAN TS 46
	68	HYSPIN AWS 68	ELFOLNA DS 68	NUTO H 68	HYDRAN TS 68
HV	32	HYSPIN AWH 32	HYDRELF DS 32	UNIVIS N 32	HYDRAN TSX 32
	46	HYSPIN AWH 46	HYDRELF DS 46	UNIVIS N 46	HYDRAN TSX 46
	68	HYSPIN AWH 68	ELFOLNA DS 68	UNIVIS N 68	HYDRAN TSX 68
HE	32	CARELUBE HTG 32			BIOHYDRAN TMP 32
	46			UNIVIS BIO SHP 46	BIOHYDRAN TMP 46
	68				BIOHYDRAN TMP 68
OILS DIESELS MOTORS			PERFORMANCE XR 15W-40	FARM 4 15W- 40	KAPPA SUPER 10W
		RX SUPER PLUS 15W-40	PERFORMANCE SUPER D 15W-40	ESSOLUBE X 301 10W	KAPPA SUPER 20W20
			PERFORMANCE TROPHY DX 15W-40	ESSOLUBE XT 301 15W-40	KAPPA SUPER 15W40

TYPES	ISO	FUCHS LUBRIFIANTS INDUSTRIE	MOBIL	SHELL	TOTAL
HM	32	RENOLIN EXTRA 32S	MOBIL DTE 24	TELLUS 32	AZOLL ZS 32
	46	RENOLIN EXTRA 46S	MOBIL DTE 25	TELLUS 46	AZOLLA ZS 68
	68	RENOLIN EXTRA 68S	MOBIL DTE 26	TELLUS 68	AZOLLA ZS 68
HV	32	RENOLIN EQUIGRADE 32	MOBIL DTE 13 M	TELLUS T et ST 32	EQUIVIS ZS 32
	46	RENOLIN EQUIGRADE 46	MOBIL DTE 15 M	TELLUS T et ST 46	EQUIVIS ZS 46
	68	RENOLIN EQUIGRADE 68	MOBIL DTE 16 M	TELLUS T et ST 68	EQUIVIS ZS 68
HE	46			NATURELLE HFE	HYDROBIO 46
OILS DIESELS MOTORS		TITAN TRUCK 15W-40			RUBIA S 10W
		TITAN UNIVERSAL HD 15W-40		RIMULAX 15W - 40	
		TITAN UNIVERSAL HD 20W-50			

OILS TYPE HM : Refined mineral oils with anti-rust, anti - oxydation and anti - wear properties.
Application hydraulic systems in general. (Max pressure 2900 PSI, Max speed 2000 RPM)

OILS TYPE HV : Oils type HM with improved viscosity / temperature properties.
Application car industry, marine equipment, high performance hydraulic (high pressures and speds).

OILS TYPE HE : Biodegradable hydraulic oils, synthetic base (esters).
Can be used in all hydraulic equipments requiring a HV oil.

OILS TYPE HFAE, HFAE, HFB, HFC, HFD : Water emulsion in oil or synthetic fluid, consult our technical departments.
The type of elastomer and the compatibility defoinition must be subject to an agreement between the supplier and the final customer.

As the JTEKT-HPI hydraulic pumps are designed with shafts on bush bearings , it is necessary to avoid any axial or radial load and ,in order to obtain the best performances and a longer life time ,to pay some keen attention to the transmission driving type .

The hereunder sketches show the couplings to realize or to proscribe in order to avoid any kind of damage of the pump .

Recommended couplings :

F.T R 0009 1/3 2/3

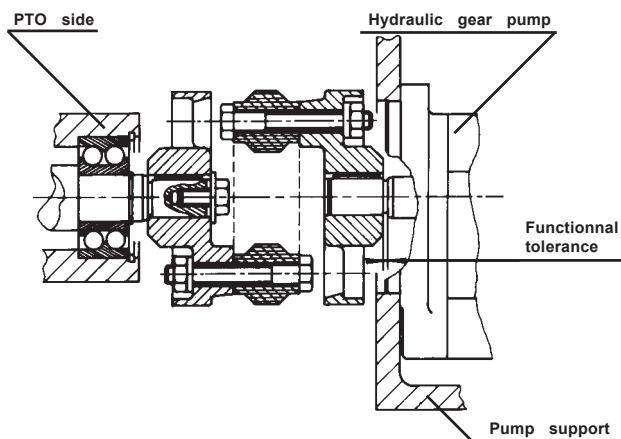
Conditionnally recommended couplings :

F.T R 0009 2/3 3/3

Proscribed couplings :

F.T R 0009 3/3

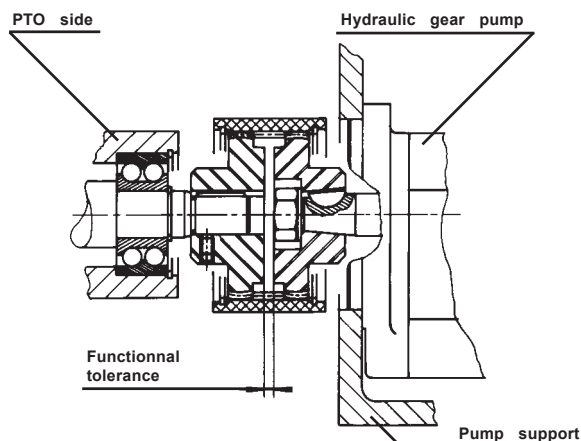
RECOMMENDED COUPLINGS



Mounting with elastic 3 parts coupling .

The pump shafts can be :

- Straight keyed shafts
- Tapered shafts
- Splined shafts

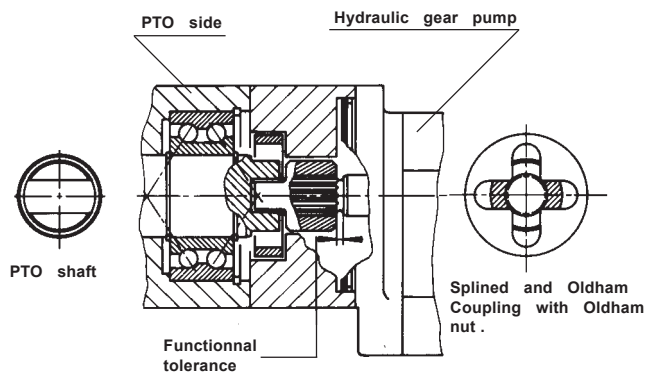


Mounting with 3 parts coupling with bulged gear .

The pump shafts can be :

- Straight keyed shafts
- Tapered shafts
- Splined shafts

RECOMMENDED COUPLINGS

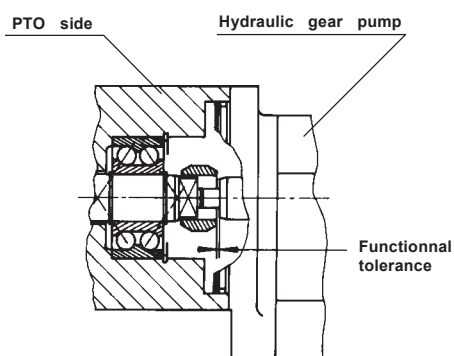


Mounting with coupling and Oldham coupling .

The pump shafts can be :

- Straight keyed shafts
- Tapered shafts
- Splined shafts

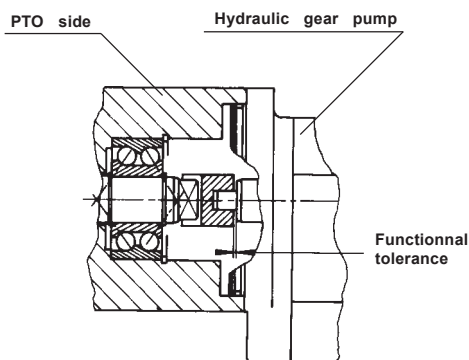
RECOMMENDED LUBRICATION.



Mounting with Oldham coupling .

Tang drive shaft on PTO and pump shaft .

RECOMMENDED LUBRICATION.

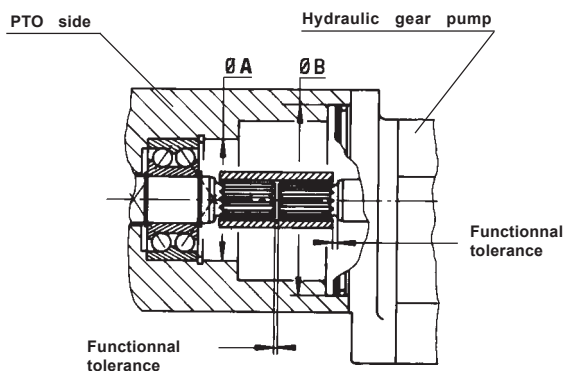


Mounting with Oldham coupling .

Tang drive shaft on PTO and pump shaft .

RECOMMENDED LUBRICATION.

CONDITIONALLY ALLOWED COUPLINGS

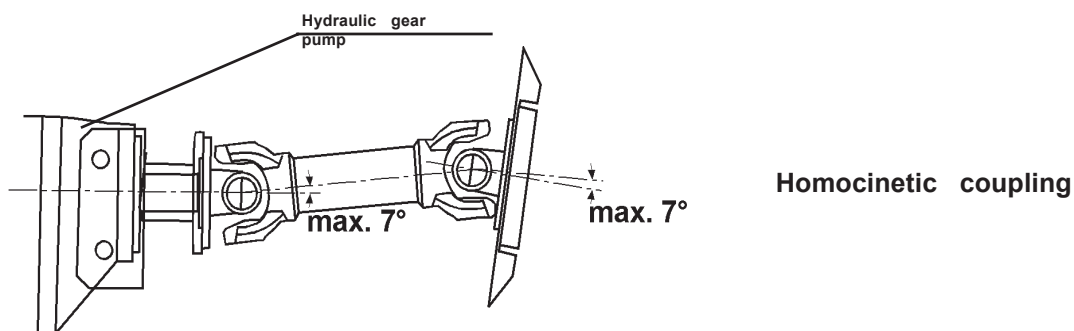


Mounting with splined coupling (Spigot on free flank) .

Tolerated coupling provided that there is a perfect concentricity between Ø A and Ø B .

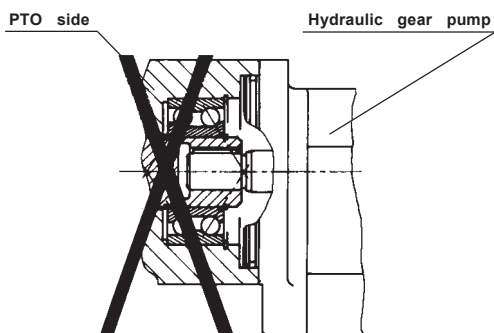
Concentricity $\leq 0,03$ (according to the pump type and capacity) .

CONDITIONALLY ALLOWED COUPLINGS



PROSCRIBED COUPLINGS

(Direct drive of the pump
shaft on the PTO shaft)

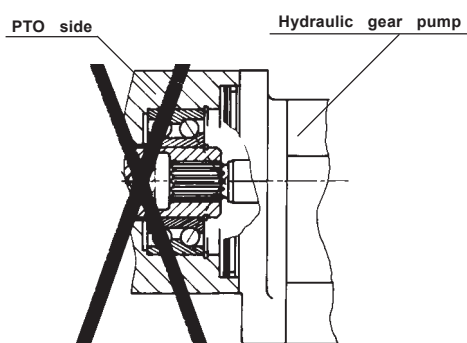


Straight keyed drive .

Hyperstatic mounting .

**Impossibility to line up properly the
pump shaft and the PTO shaft .**

**INEVITABLE PUMP SHAFT -
CONSTRAINT**

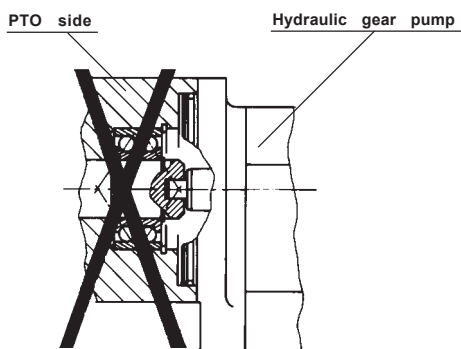


Splined drive .

Hyperstatic mounting .

**Impossibility to line up properly the
pump shaft and the PTO shaft .**

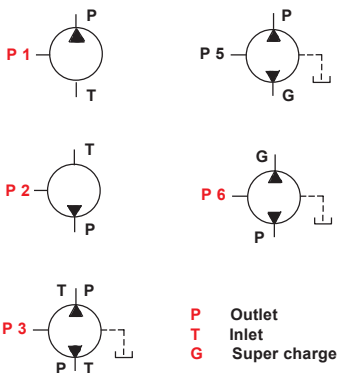
**INEVITABLE PUMP SHAFT -
CONSTRAINT**



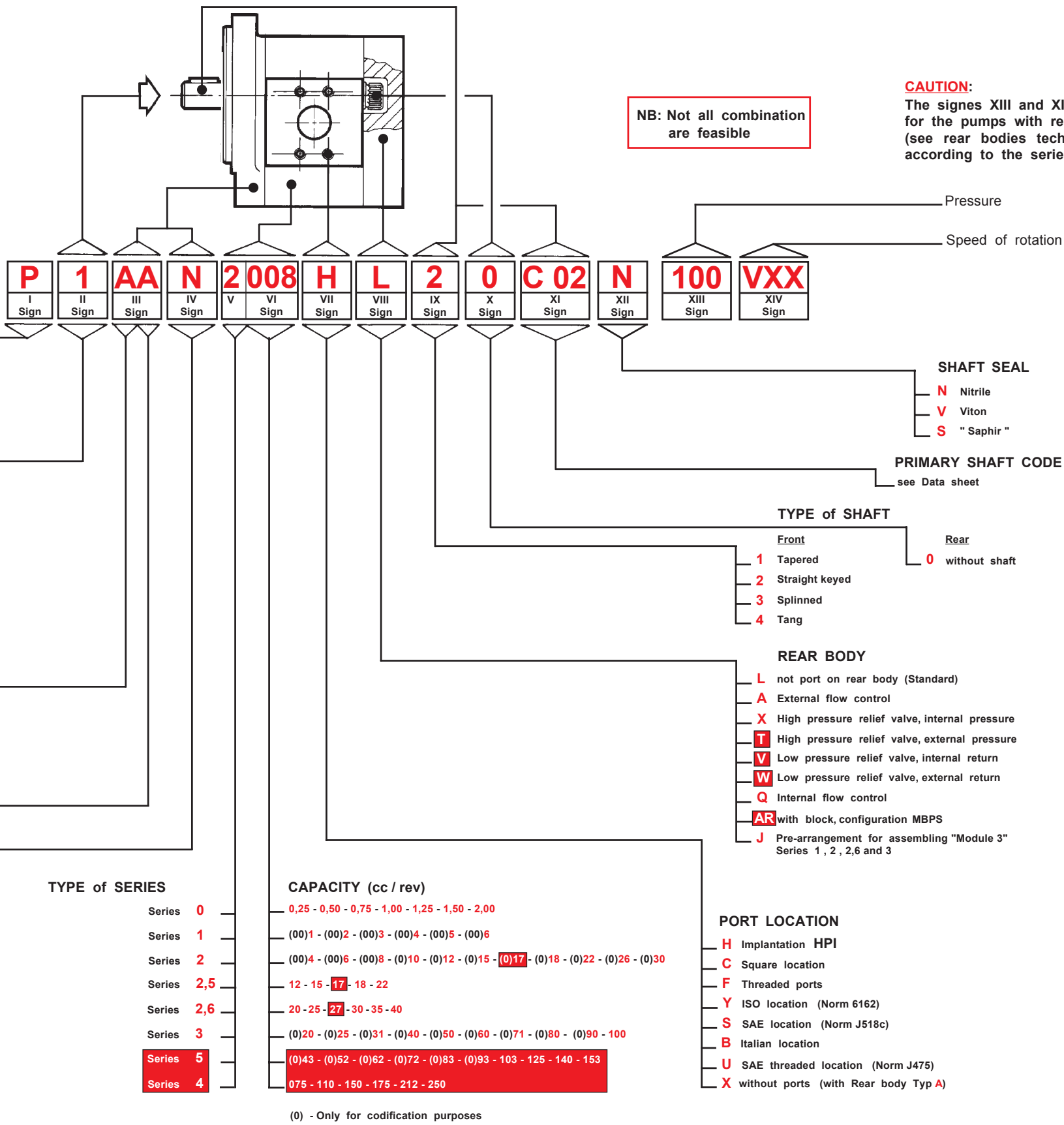
Tang drive .

**Pump shaft directly into the
PTO shaft .**

**INEVITABLE PUMP SHAFT -
CONSTRAINT**



P Outlet
T Inlet
G Super charge



NB: Not all combination
are feasible

CAUTION:
The signes XIII and XIV are valid only
for the pumps with relief valve.
(see rear bodies technical data sheet
according to the series concerned)

Dimensions readings and approximative characteristics subject to modifications.

F.T R 0011

(*) Only for Series 2 and 2,5

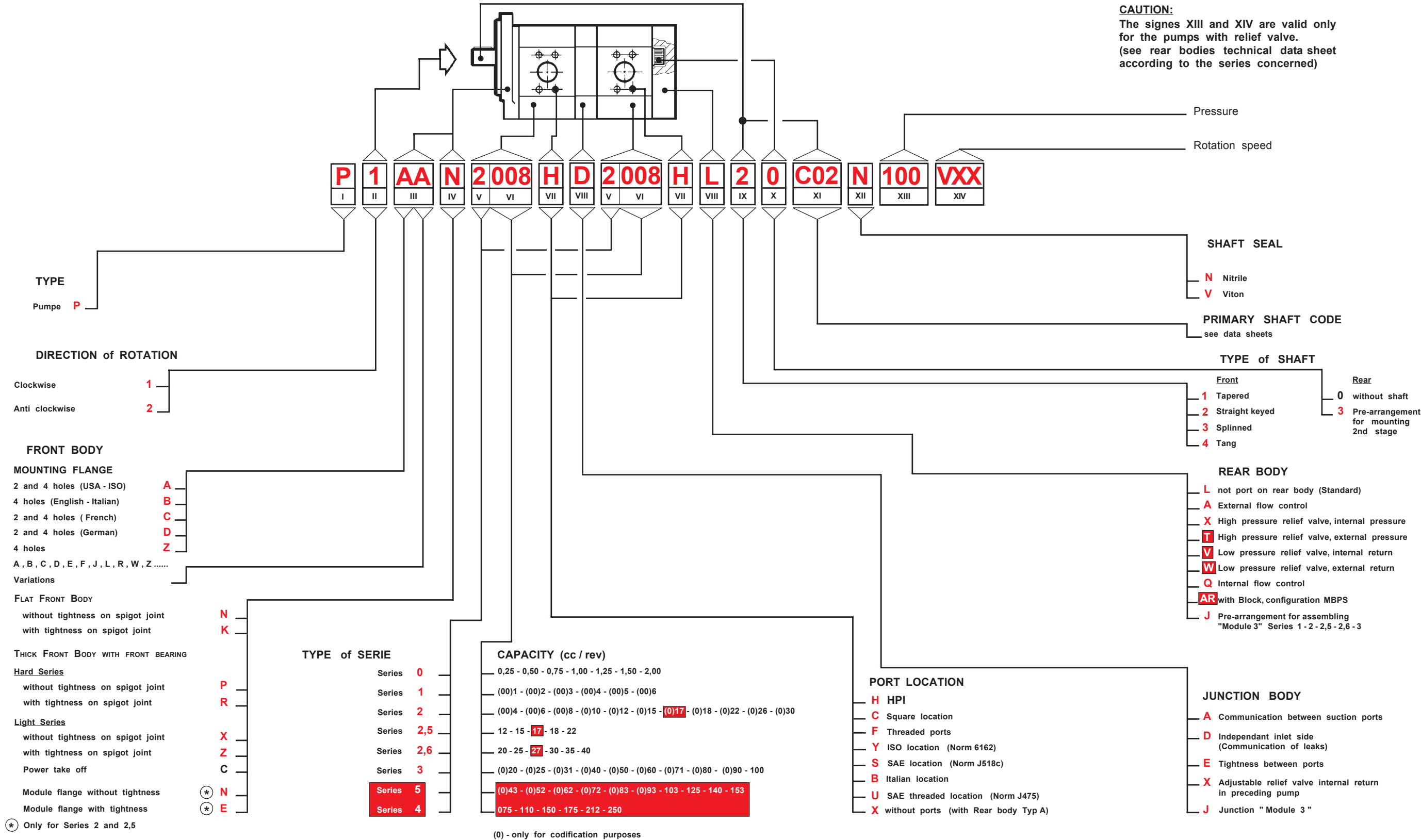
Consult us for availability

NB: Not all combination
are feasible

CAUTION:
The signes XIII and XIV are valid only
for the pumps with relief valve.
(see rear bodies technical data sheet
according to the series concerned)

Dimensions readings and approximative characteristics subject to modifications.

F.T R 0030



Consult us for availability

SERIES

MODEL	Capacity cc / rev	PEACK PRESSURE bar PSI		MAX WORKING PRESSURE bar PSI		Maxi speed RPM	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and N.m	Approx. weight Kg
							at 1500 RPM	at Maxi speed			
							l / min	l / min			

0

0025	0,25	280	4060	240	3480	8000	0,37	2	0,05	0,47	0,42
0050	0,50	280	4060	240	3480	8000	0,75	4	0,10	0,54	
0075	0,75	250	3625	210	3045	8000	1,12	6	0,15	1,40	
0100	1	250	3625	210	3045	8000	1,50	8	0,20	1,87	0,45
0125	1,25	200	2900	170	2465	6000	1,87	7,5	0,25	2,34	
0150	1,50	150	2175	125	1812	6000	2,25	9	0,29	2,81	
0200	2	125	1812	105	1522	5000	3	10	0,39	3,74	0,50

1

1001	1,02	300	4350	255	3697	8000	1,53	8,16	0,20	1,91	0,9
1002	2,05	300	4350	255	3697	8000	3,07	16,4	0,40	3,83	
1003	3,07	300	4350	255	3697	7000	4,60	21,4	0,60	5,74	
1004	4,09	250	3625	215	3117	6000	6,13	24,5	0,80	7,65	1,1
1005	5,12	200	2900	170	2465	6000	7,68	30,7	1	9,58	
1006	6,14	150	2175	125	1812	6000	9,21	30,7	1,20	11,49	

2

2004	4,65	280	4060	240	3480	3500	6,97	16,2	0,91	8,70	1,6
2006	6,45	280	4060	240	3480	3500	9,67	22,5	1,26	12,07	1,6
2008	8,25	280	4060	240	3480	3500	12,37	28,8	1,62	15,43	1,7
2010	10,12	280	4060	240	3480	3500	15,18	35,3	1,98	18,93	1,7
2012	12	280	4060	240	3480	3500	18	42	2,35	22,45	1,7
2014	13,8	250	3625	210	3045	3500	20,7	48,3	2,71	25,81	2
2015	15,52	250	3625	210	3045	3500	23,25	52,5	3,04	29,03	2,1
2017	17,3	220	3190	190	2755	3500	25,95	60,55	3,39	32,36	2,1
2018	19,12	200	2900	170	2465	3500	28,65	66,8	3,75	35,77	2,2
2022	22,87	175	2537	150	2175	3500	34,2	79,8	4,48	42,78	2,3
2026	27,6	175	2537	150	2175	3000	41,4	82,8	5,41	51,63	2,7
2030	31,2	175	2537	150	2175	3000	46,8	93,6	6,12	58,36	2,8

2,5

2512	12	300	4350	255	3697	3500	18	42	2,35	22,45	2,2
2515	15,52	280	4060	240	3480	3500	23,25	52,5	3,04	29,03	2,6
2517	17,3	280	4060	240	3480	3500	25,95	60,55	3,39	32,36	2,6
2518	19,12	250	3625	215	3117	3500	28,65	66,8	3,75	35,77	2,7
2522	22,87	225	3262	190	2755	3500	34,2	79,8	4,48	42,78	2,8

2,6

2620	19,6	330	4185	280	4060	3000	29,40	58,80	3,70	36,66	8
2625	24,2	330	4185	280	4060	3000	36,30	72,60	4,50	45,27	
2627	27,5	330	4185	280	4060	3000	41,25	82,50	5	51,25	
2630	30,5	330	4185	280	4060	3000	45,75	91,50	5,70	57,05	
2635	34,5	290	4205	250	3625	3000	51,75	103,50	6,40	64,54	
2640	39,8	250	3625	210	3045	3000	59,70	119,40	7,50	74,45	

Dimensions readings and approximative characteristics subject to modifications.

F.T R 0005 1/2

Consult us for availability

[home](#)
[contents](#)
[previous](#)
[next](#)
[main dimensions](#)

PUBLISHING 02 / 2012

MAX WORKING CONDITIONS

SERIES

MODEL	Capacity cc / rev	PEACK PRESSURE bar PSI		MAX WORKING PRESSURE bar PSI		Maxi speed RPM	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and N.m	Approx. weight Kg
							at 1500 RPM	at Maxi speed			
							l / min	l / min			

3020	21,1	275	3987	235	235	3000	31,65	63,3	4,14	39,47	5,6
3025	25,8	275	3987	235	235	3000	38,7	77,4	5,06	48,26	5,6
3031	32,1	275	3987	235	235	3000	48,15	96,3	6,29	60,05	5,6
3040	41,5	275	3987	235	235	3000	62,25	124,5	8,14	77,63	5,7
3050	51,65	250	3625	215	215	3000	77,47	154,9	10,13	96,62	6,9
3060	62,6	225	3262	190	190	2500	93,9	156,5	12,27	117,10	7
3071	73,55	225	3262	190	190	2500	110,32	183,8	14,42	137,58	7
3080	82,95	200	2900	170	170	2200	124,42	182,4	16,26	155,17	7,1
3090	92,95	150	2175	130	130	2000	139,42	185,9	18,23	173,87	7,8
3100	103,9	150	2175	130	130	2000	155,85	207,8	20,37	194,37	8

5043	43,06	300	4350	255	3697	3000	64,59	129	8,44	80,55	14,2
5052	52,91	300	4350	255	3697	3000	79,36	158,5	10,37	98,97	14,2
5062	62,75	300	4350	255	3697	3000	94,12	188	12,30	117,38	14,4
5072	72,59	300	4350	255	3697	3000	108,88	217,5	14,23	135,79	14,6
5083	83,67	280	4060	240	3480	2700	125,50	226	16,41	156,51	15,1
5093	93,51	250	3625	210	3045	2700	140,26	252,5	18,34	174,92	15,2
5103	103,3	250	3625	210	3045	2700	154,95	279	20,25	193,23	15,2
5125	125,5	250	3625	210	3045	2600	188,25	326	24,61	234,76	15,7
5140	140,2	250	3625	210	3045	2500	210,30	350,5	27,49	262,26	15,7
5153	153	250	3625	210	3045	2400	229,50	367,5	30	286,20	16

4075	075	200	2900	170	2465	2500	112,5	187,5	19,37	141	17
4110	110	200	2900	170	2465	2500	165	275	28,42	206	17,2
4150	150	200	2900	170	2465	2500	225	375	28,60	281	17,4
4175	175	175	2625	150	2175	2500	262,5	437,5	34,31	327,35	19
4212	212	150	2175	130	1885	2500	318	530	41,57	396,56	19,4
4250	250	125	1812	105	1522	2000	375	500	49,02	467,65	20

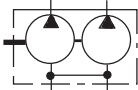
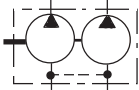
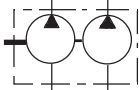
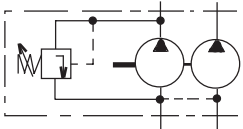
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F.T R 0005 2/2

Consult us for availability

[home](#)
[contents](#)
[previous](#)
[next](#)
[main dimensions](#)

PUBLISHING 02 / 2012

TYPE DES POMPES	(VIII Signe)			
	Communication between suction ports (Capacity of the pump without suction $\geq$ half of the capacity of the front section) Code A 	Indépendant inlet side (communication of leaks) (Oil and tank to be necessarily identical) Code D 	Tightness between ports Code E 	Adjustable relief valve internal return in preceding pump Code X 
0 / 0				
1 / 1				
2 / 1				
2 / 2				
2,5 / 1				
2,5 / 2				
2,5 / 2,5				
2,6 / 2				
2,6 / 2,5				
2,6 / 2,6				
3 / 1				
3 / 2				
3 / 2,5				
3 / 3				
5 / 5				
4 / 4				

ATTENTION: Versions 2 / 1 and 2,5 / 1 are not feasible in DCN - DCK - DUK - DWN - DZK

F.T R 0029



Types not manufactured



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