GENERAL CATALOGUE (G10)

Characteristics and Codifications of Pumps

Hydraulic gear pumps

GENERAL CATALOGUE (G10)

Characteristics and Codifications

RECOMMENDATIONS for INSTALLING and MAINTAINING HPI PUMPS

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 regulary 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 °C . 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 parallelepipidal 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 leakage .

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 other parts of the tank must be airproof .

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, particulary 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 ambiant 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).

Ambiant 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, amoung 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 variations 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 hours.

(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

TYPE	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			

Dimension readings and approximative characteristics subject to modifications .

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 equipement, high performance hydraulic (high pressures and speds).

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

OILS TYPE HFAE , HFAS , 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.

OIL RECOMMENDATIONS

RECOMMENDATION CONCERNING the DRIVE TYPE of HPI HYDRAULIC PUMPS

As the 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 .

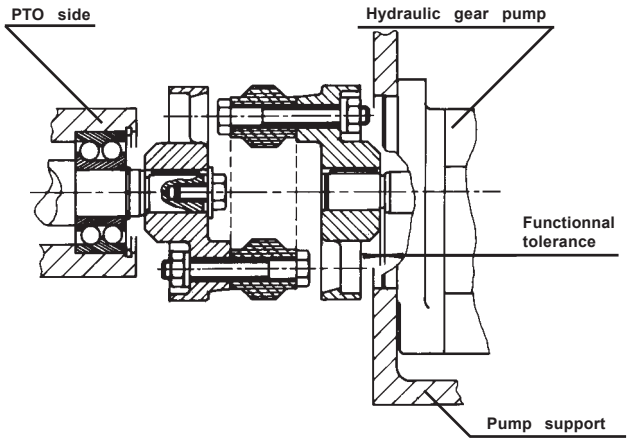
The hereunder sketches show the couplings to realize or to proscribe in order to avoid any kind of damage of the pump .

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

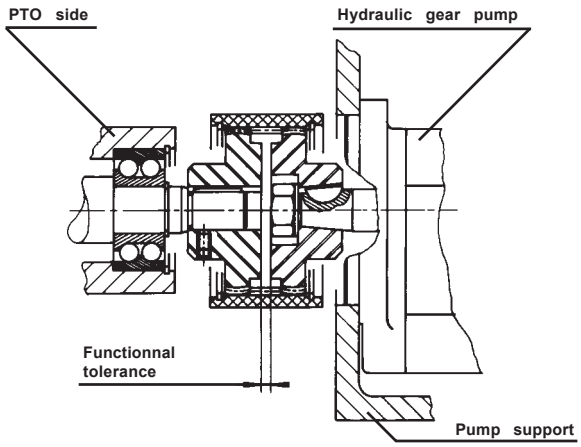
RECOMMENDED COUPLINGS



Mounting with elastic 3 parts coupling .

The pump shafts can be :

- **Straight keyed shafts**
- **Tapered shafts**
- **Splined shafts**

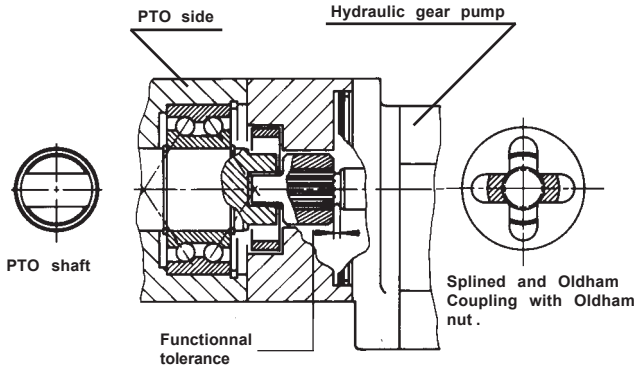


Mounting with 3 parts coupling with bulged gear .

The pump shafts can be :

- **Straight keyed shafts**
- **Tapered shafts**
- **Splined shafts**

RECOMMENDED COUPLINGS

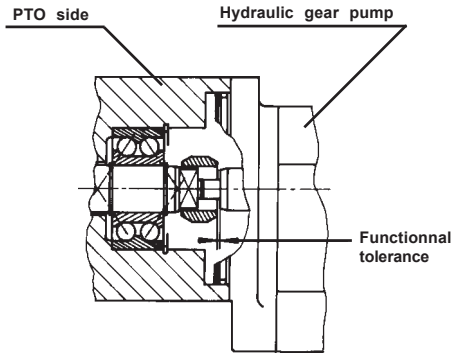


Mounting with coupling and Oldham coupling .

The pump shafts can be :

- **Straight keyed shafts**
- **Tapered shafts**
- **Splined shafts**

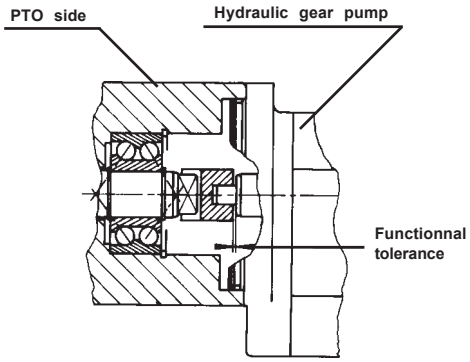
RECOMMENDED LUBRICATION .



Mounting with Oldham coupling .

Tang drive shaft on PTO and pump shaft .

RECOMMENDED LUBRICATION .

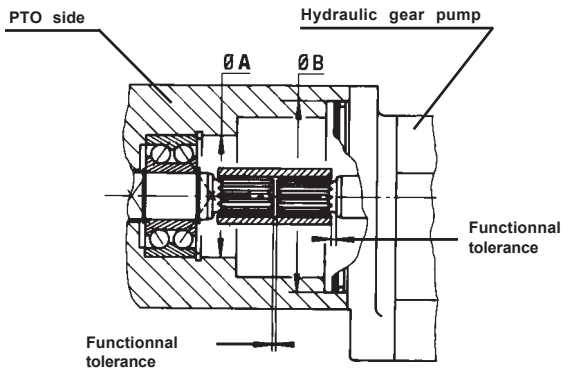


Mounting with Oldham coupling .

Tang drive shaft on PTO and pump shaft .

RECOMMENDED LUBRICATION .

CONDITIONALLY ALLOWED COUPLINGS



Mounting with splined coupling (Spigot on free flank) .

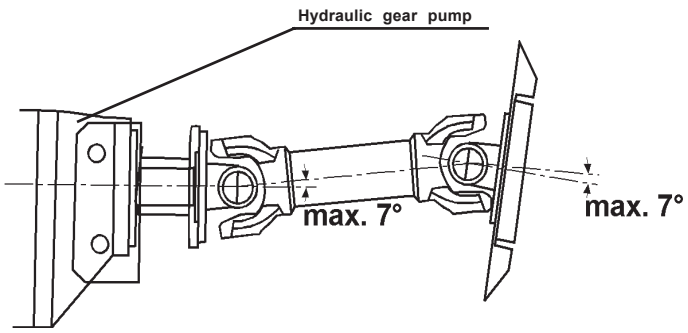
Tolerated coupling provided that there is a perfect concentricity between Ø A and Ø B .

Concentricity ⩽ 0,03 (according to the pump type and capacity) .

Dimension readings and approximative characteristics subject to modifications .

F.T R 0009 2/3

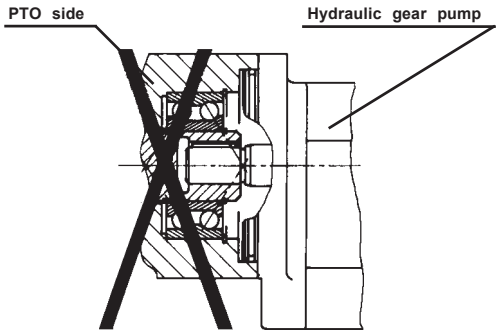
CONDITIONALLY ALLOWED COUPLINGS



Homocinetic coupling

PROSCRIBED COUPLINGS

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

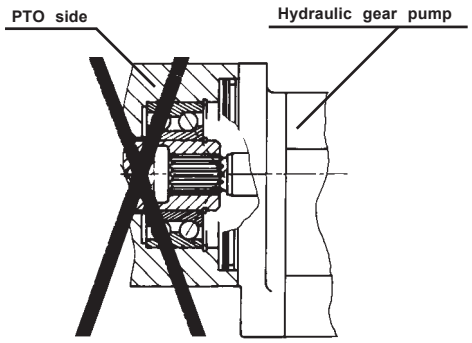


Straight keyed drive .

Hyperstatic mounting .

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

INEVITABLE PUMP SHAFT - CONSTRAINT

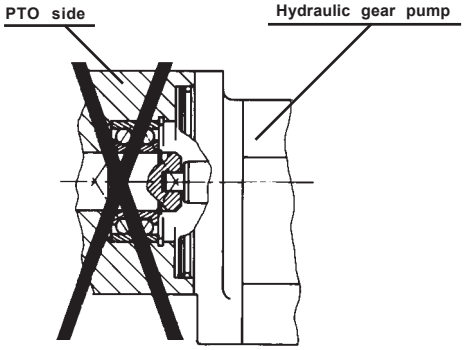


Splined drive .

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

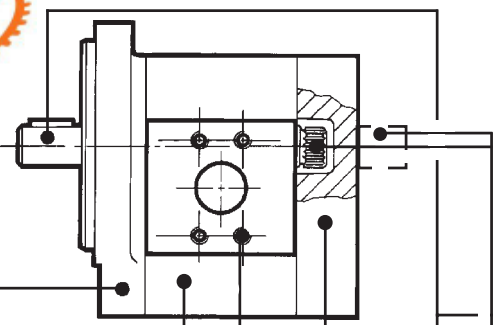
Dimension readings and approximative characteristics subject to modifications .

F.T R 0009 3/3

JTEKT HPI

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)

NB :
Not all combinations are feasible



Pressure
Rotation speed

P	1	AA	N	2	008	H	L	2	0	C 02	N	100	VXX
I Sign	II Sign	III Sign	IV Sign	V	VI Sign	VII Sign	VIII Sign	IX Sign	X Sign	XI Sign	XII Sign	XIII Sign	XIV Sign

TYPE

Pump P
" Saphir 2G" Pump S *
* Only for Series 2 and 2,5

DIRECTION of ROTATION

Clockwise 1
Anti clockwise 2
2 direction (no preferential direction) 3
2 direction For super charge inlet (Preferential direction 1) 5
2 direction For super charge inlet (Preferential direction 2) 6

FRONT BODY

MOUNTING FLANGE
2 and 4 holes (USA - ISO) A
4 holes (English - Italian) B
2 and 4 holes (French) C
2 and 4 holes (German) D
4 holes Z
A , B , C , D , E , F , J , L , R , W , Z ..... Variations

FLAT FRONT BODY
without tighness on spigot joint N
with tightness on spigot joint K

THICK FRONT BODY WITH FRONT BEARING
Hard Series
without tightness on spigot joint P
with tightness on spigot joint R
Light Series
without tightness on spigot joint X
with tighness on spigot joint Z
Power take-off C
Module flange without tightness (*) N
Module flange with tightness (*) E
(*) Only for Series 2 and 2,5

TYPE of SERIES

Series 0
Series 1
Series 2
Series 2,5
Series 2,6
Series 3
Series 5
Series 4
(0) - only for codification purposes

CAPACITY (cc / rev)

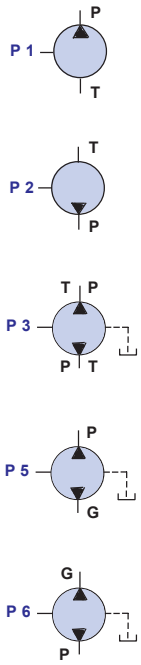
0,25 - 0,50 - 0,75 - 1,00 - 1,25 - 1,50 - 2,00
(00)1 - (00)2 - (00)3 - (00)4 - (00)5 - (00)6
(00)4 - (00)6 - (00)8 - (0)10 - (0)12 - (0)15 - (0)18 - (0)22 - (0)26 - (0)30
12 - 15 - 18 - 22
20 - 25 - 30 - 35 - 40
(0)20 - (0)25 - (0)31 - (0)40 - (0)50 - (0)60 - (0)71 - (0)80 - (0)90 - 100
(0)43 - (0)52 - (0)62 - (0)72 - (0)83 - (0)93 - 103 - 125 - 140 - 153
075 - 110 - 150 - 175 - 212 - 250

REAR BODY

L no port on rear body (Standard)
A External flow control
X high pressure relief valve, internal return
T high pressure relief valve, external return
V low pressure relief valve, internal return
W low pressure relief valve, external return
Q Internal flow control
R with ports on rear bodie
D Flow control valve 3 Ways
Z Double shaft port (on request)
J Pre-arrangement for assembling "Module 3" Series 1 , 2 , 3

PORT LOCATION

H HPI location
C Square location
F Threaded ports
Y ISO location (Norm 6162)
S SAE location (Norm J518c)
B Italian location
U SAE threaded ports (Norm J475)
X without ports (with Rear body Typ A)



P Outlet
T Inlet
G Super charge

TYPE of SHAFT

Front
1 Tapered
2 Straight keyed
3 Splinned
4 Tang

Rear
0 without shaft
3 Pre-arrangement for mounting 2nd stage

PRIMARY SHAFT CODE

Voir Fiches Techniques

SHAFT SEAL

N Nitrile
V Viton
S Saphir " 1G "

Dimensions readings and approximative characteristics subject to modifications.

F.T R 0011

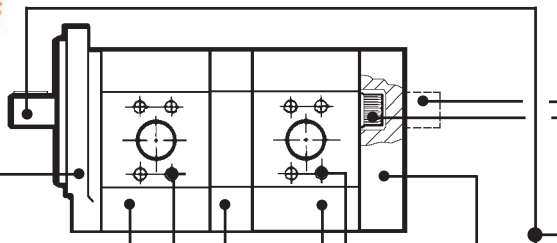
CODIFICATION of " GENERAL " SINGLE PUMPS

PUBLISHING 04 / 12 / 2001
G10 | 014 | 00

JTEKT HPI

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)

NB :
Not all combinations are feasible .



P	1	AA	N	2	008	H	D	2	008	H	L	2	0	C02	N	100	VXX
I	II	III	IV	V	VI	VII	VIII	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIv

Pressure
Rotation speed

TYPE
Pump P
" Saphir 2G" Pump S *
* Only for Series 2 and 2,5

SHAFT SEAL
N Nitrile
V Viton
S Saphir " 1G "

PRIMARY SHAFT CODE
See technical data sheets

DIRECTION of ROTATION
Clockwise 1
Anti clockwise 2

TYPE of SHAFT
Front
1 Tapered
2 Straight keyed
3 Splined
4 Tang

Rear
0 Secondary shaft
3 Pre - arrangement for mounting 2nd stage

FRONT BODY
MOUNTING FLANGE
2 and 4 holes (USA - ISO) A
4 holes (English - Italian) B
2 and 4 holes (French) C
2 and 4 holes (German) D
4 holes Z
A , B , C , D , E , F , J , L , R , W , Z ..... Variations

Dimensions readings and approximative characteristics subject to modifications.

FLAT FRONT BODY
without tightness on spigot joint N
with tightness on spigot joint K

THICK FRONT BODY WITH FRONT BEARINGS
Hard Series
without tightness on spigot joint P
with tightness on spigot joint R
Light series
without tightness on spigot joint X
with tightness on spigot joint Z
Power take - off C
Module flange without tightness (*) N
Module flange with tightness (*) E
(*) Only for Series 2 and 2,5

REAR BODY
L no port on rear body (Standard)
A with ports on rear bodie
X High pressure relief valve, internal return
T High pressure relief valve, external return
V Low pressure relief valve, internal return
W Low pressure relief valve, external return
Q Internal return flow control
R External return flow control
D Flow control 3 Ways
Z Double shaft bodie (on request)
J Pre - arrangement with mounting "Module 3" Series 1 , 2 , 3

JUNCTION BODY
A Communication between suction ports
D Independant inlet side (Communication of leaks)
E Tightness between ports
X Adjustable relief valve internal return
J in preceding pump Jonction " Module 3 "

TYPE of SERIES — CAPACITY (cc / rev)
Series 1 — (00)1 - (00)2 - (00)3 - (00)4 - (00)5 - (00)6
Series 2 — (00)4 - (00)6 - (00)8 - (0)10 - (0)12 - (0)15 - (0)18 - (0)22 - (0)26 - (0)30
Series 2,5 — 12 - 15 - 18 - 22
Series 2,6 — 20 - 25 - 30 - 35 - 40
Series 3 — (0)20 - (0)25 - (0)31 - (0)40 - (0)50 - (0)60 - (0)71 - (0)80 - (0)90 - 100
Series 5 — (0)43 - (0)52 - (0)62 - (0)72 - (0)83 - (0)93 - 103 - 125 - 140 - 153
Series 4 — 075 - 110 - 150 - 175 - 212 - 250
(0) - Only for Codification purposes

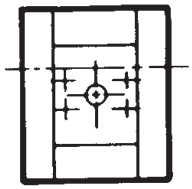
PORT LOCATION
H HPI location
C Square location
F Threaded ports
Y ISO location (Norm 6162)
S SAE location (Norm J518c)
B Italian location
U SAE threaded ports (Norm J475)
X without ports (with Rear body Typ A)

F.T R 0030

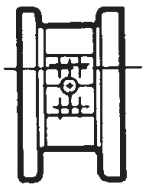
CODIFICATION of " GENERAL " MULTIPLE PUMPS

PUBLISHING 04 / 02 / 2002
G10 | 015 | 00

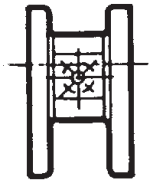
MODULE 3



Series 3

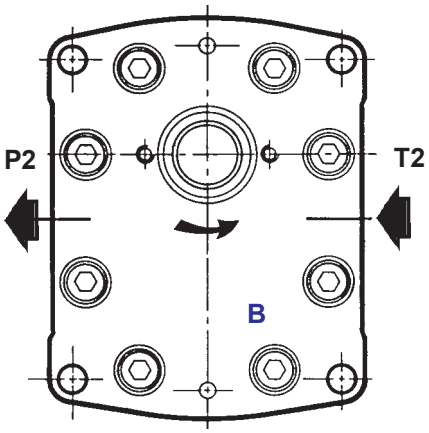


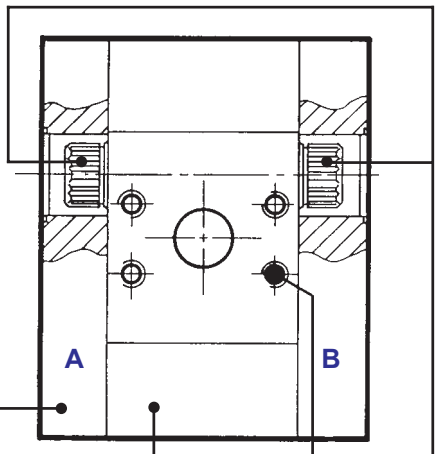
Series 2 - 2,5



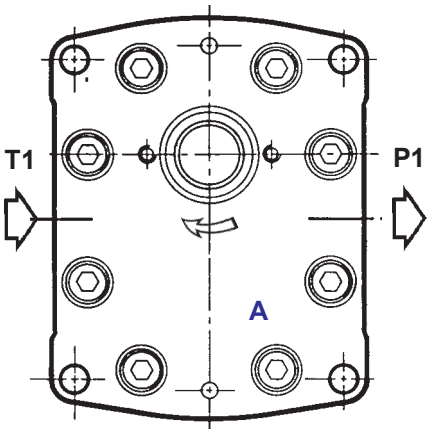
Series 1

Direction of Rotation 2
Drive on Face B





Direction of Rotation 1
Drive on Face A



Dimension readings and approximative characteristics subject to modifications .

P	4	CJN	3	040	H	J	33	C05	N
I Sign	II Sign	III Sign	II Sign	III Sign	II Sign	II Sign	III Sign	III Sign	II Sign

PUMP P

DIRECTION of ROTATION 4
(Explanation see F.T R 0149)

Drive on Face A = Direction 1
Drive on Face B = Direction 2

INTERFACE (Module) CJN

TYPE of the SERIES

- Series 1
- Series 2
- Series 2,5
- Series 2,6
- Series 3

CAPACITY in the SERIES (cc / rev)

- (00)1 - (00)2 - (00)3 - (00)4 - (00)5 - (00)6
- (00)4 - (00)6 - (00)8 - (0)10 - (0)12 - (0)15 - (0)18 - (0)22 - (0)26 - (0)30
- 12 - 15 - 18 - 22
- 20 - 25 - 30 - 35 - 40
- (0)20 - (0)25 - (0)31 - (0)40 - (0)50 - (0)60 - (0)71 - (0)80 - (0)90 - 100

Préfix(es) 0 - only for conformity of the Codification

PORT LOCATION

- H Implantation HPI
- C Square Implantation

J INTERFACE

33 SPLINNED SHAFT

SHAFT CODE

- C24 Series 1
- C05 Series 2 and 2,5
- C25 Series 2,6
- C14 Series 3

SHAFT SEAL

- N Nitrile
- V Viton

F.T R 0146

CODIFICATION of DEFINITION MODULE " 3 " BASE

MODEL	(VIII Sign) Communication between suction ports (Capacity of the pump without suction ≥ half of the capacity of the front section)) Code A	Independant 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 / 2,6				
3 / 1				
3 / 2				
3 / 2,5				
3 / 3				
5 / 2				
5 / 2,5				
5 / 3				
5 / 5				
4 / 4				

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

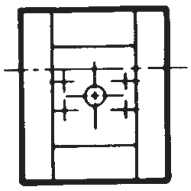
Types not manufactured

For CODIFICATION , see data sheet F.T R 0030

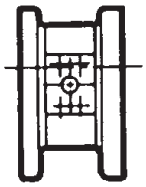
DIFFERENT MOUNTING POSSIBILITIES BETWEEN MULTIPLE PUMPS

F.T R 0029

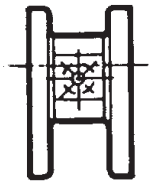
MODULE 3



Série 3



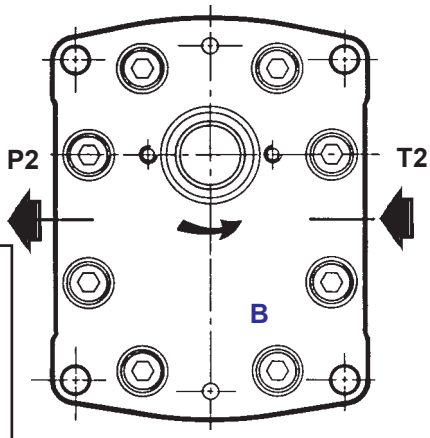
Séries 2 - 2,5

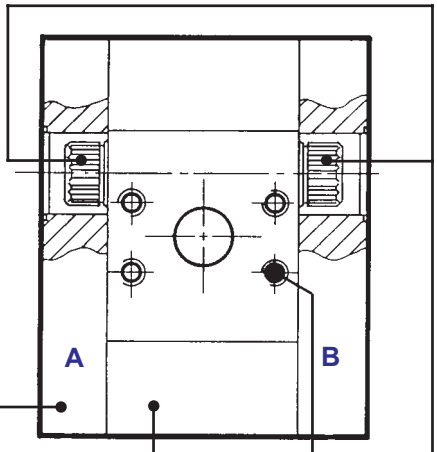


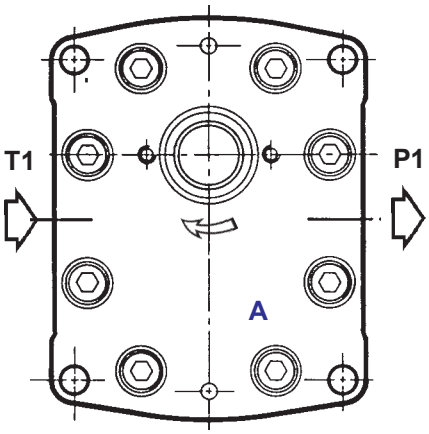
Série 1

Sens de Rotation 2
Entrainement sur Face B

Sens de Rotation 1
Entrainement sur Face A







Cotes dimensionnelles et caractéristiques approximatives sous réserves de modifications

P	4	CJN	3	040	H	J	33	C05	N
I Signe	II Signe	III Signe	II Signe	III Signe	II Signe	II Signe	III Signe	III Signe	II Signe

POMPE P

SENS de ROTATION 4
(Explication voir F.T R 0149)

Entraînement sur Face A = Sens 1

Entraînement sur Face B = Sens 2

INTERFACE (Module) CJN

REFERENCE de la SERIE

- Série 1
- Série 2
- Série 2,5
- Série 2,6
- Série 3

CAPACITE dans la SERIE (cm3 / t)

- (00)1 - (00)2 - (00)3 - (00)4 - (00)5 - (00)6
- (00)4 - (00)6 - (00)8 - (0)10 - (0)12 - (0)15 - (0)18 - (0)22 - (0)26 - (0)30
- 12 - 15 - 18 - 22
- 20 - 25 - 30 - 35 - 40
- (0)20 - (0)25 - (0)31 - (0)40 - (0)50 - (0)60 - (0)71 - (0)80 - (0)90 - 100

Préfixe(s) 0 - Uniquement pour conformité de la Codification

IMPLANTATION des ORIFICES

- H Implantation HPI
- C Implantation carrée

J INTERFACE

33 ARBRE CANNELE

CODE de L'ARBRE

- C24 Série 1
- C05 Séries 2 et 2,5
- C25 Série 2,6
- C14 Série 3

Joints d' étanchéité

- N Nitrile
- V Viton

F.T R 0146

CODIFICATION DE DEFINITION BASE MODULE " 3 "

EDITION 06 / 02 / 2002

PUMPS CHARACTERISTICS

Series (V Sign)	MODEL (VI Sign)	Capacity	PEAK PRESSURE		MAX. WORKING PRESSURE		Maxi speed	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and m.daN
								at 1500 RPM	at Maxi speed		
		cc / rev	bar	PSI	bar	PSI	RPM	l / min	l / min		
3	020	21,10	275	3987	235	3400	3000	31,65	63,3	4	3,74
	025	25,80	275	3987	235	3400	3000	38,70	77,4	4,90	4,63
	031	32,10	275	3987	235	3400	3000	48,15	96,3	6,10	5,73
	040	41,50	275	3987	235	3400	3000	62,25	124,5	7,85	7,37
	050	51,65	250	3625	215	3120	3000	77,47	154,9	9,77	9,21
	060	62,60	225	3262	190	2755	2500	93,90	156,5	11,85	11,05
	071	73,55	225	3262	190	2755	2500	110,32	183,8	13,92	13,08
	080	82,95	200	2900	170	2465	2200	124,42	182,4	15,59	14,60
	090	92,95	150	2175	130	1885	2000	139,42	185,9	17,47	16,47
	100	103,9	150	2175	130	1885	2000	155,85	207,8	19,40	18,17
5	043	43,06	300	4350	255	3700	3000	64,59	129	8,28	8,05
	052	52,91	300	4350	255	3700	3000	79,36	158,5	9,94	9,51
	062	62,75	300	4350	255	3700	3000	94,12	188	11,79	11,34
	072	72,59	300	4350	255	3700	3000	108,88	217,5	13,64	13,17
	083	83,67	280	4060	240	3480	2700	125,50	226	15,55	15
	093	93,51	250	3625	210	3045	2700	140,26	252,5	17,38	16,82
	103	103,3	250	3625	210	3045	2700	154,95	279	19,20	18,63
	125	125,5	250	3625	210	3045	2600	188,25	326	23,32	22,61
	140	140,2	250	3625	210	3045	2500	210,30	350,5	26,05	25,33
	153	153	250	3625	210	3045	2400	229,50	367,5	28,27	27,52
4	075	075	200	2900	170	2465	2500	112,5	187,5	19,37	14,10
	110	112	200	2900	170	2465	2500	168	275	28,42	20,60
	150	150	200	2900	170	2465	2500	225	375	28,60	28,10
	175	175	175	2537	150	2175	2500	262,5	437,5	33,67	32,80
	212	212	150	2175	130	1885	2500	318	530	40	39
	250	250	125	1812	105	1523	2000	375	500	46,46	45,23

Dimension readings and approximative characteristics subject to modifications .

F.T R 0193 2/2

GENERAL CATALOGUE (G10)

Hydraulic gear pumps

Series 3

Flat Front Body

Publishing 01 / 2003

PUMPS CHARACTERISTICS

MODEL (V-VI Sign)	Capacity	PEAK PRESSURE		MAX. WORKING PRESSURE		Maxi Speed	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and m.daN	Approximate weight
							at 1500 RPM	at Maxi Speed			
	cc / rev	bar	PSI	bar	PSI	RPM	l / min	l / min			Kg
3020	21,10	275	3987	235	3410	3000	31,65	63,3	3,75	3,35	5,6
3025	25,80	275	3987	235	3410	3000	38,70	77,4	4,60	4,10	
3031	32,10	275	3987	235	3410	3000	48,15	96,3	5,66	5,11	
3040	41,50	275	3987	235	3410	3000	62,25	124,5	7,28	6,60	5,7
3050	51,65	250	3625	215	3120	3000	77,47	154,9	8,97	8,22	6,9
3060	62,60	225	3262	190	2755	2500	93,90	156,5	10,60	9,96	7
3071	73,55	225	3262	190	2755	2500	110,32	183,8	12,50	11,71	7
3080	82,95	200	2900	170	2465	2200	124,42	182,4	14,20	13,20	7,1
3090	92,95	150	2175	130	1885	2000	139,42	185,9	16,30	14,80	7,8
3100	103,9	150	2175	130	1885	2000	155,85	207,8	18,10	16,54	8

Performances and Output Curves. (Thanks to contact us)

(Tests effected with Oil SHELL Tellus T 46)

Dimension readings and approximative characteristics subject to modifications .

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.

TORQUE CALCULATION

Q Capacity in cc / rev

P Pressure in bar

η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 DBN 3060 H L 10 C04 Pressure : 200 bar Speed : 2000 RPM

Torque = $\frac{1,56 \times 60 \times 200}{1000 \times 0,88}$ = 21,27 m.daN

PUBLISHING 06 / 02 / 2002

F.T R 0206

" GENERAL " CATALOGUE MOUNTING POSSIBILITIES

FRONT BODY (III - IV Sign)				CENTRAL BODY (VII Sign)		REAR BODY (VIII Sign)				TYPE and SHAFT CODE (IX - X - XI Sign)			
A	B	C	D	H	Y	L	V	W	A	10	20	30	40
AAN					●		●	●			20A02	30A02	
	BAN				●		●	●		10B03 10B04	20A02 20C04		
		CBN			●		●	●			20C04		40C04
		CBK			●		●	●			20C04		40C04
			DBN		●		●	●		10C04			
			DBK		●		●	●		10C04			

Not feasible versions " GENERAL "

other possibilities : please refer to " BASIC " catalogue B10

● Capacities 3020 to 3060 only

Our " BASIC" catalogue includes versions of our series 0 to 5 pumps according to European and American Standards (SAE) .

Thick front body , see data sheet F.T R 0175

Dimension readings and approximative characteristics subject to modifications .

F.T R 0174

HYDRAULIC GEAR PUMPS

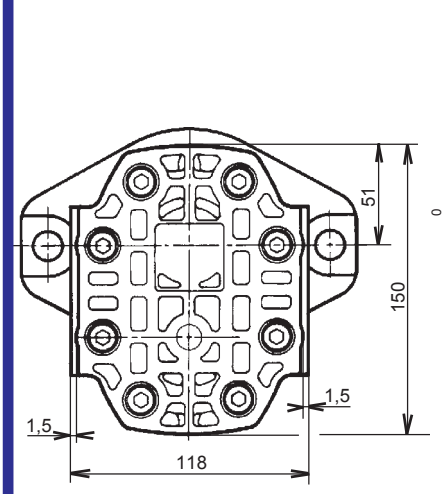
SERIES 3 (FLAT FRONT BODY)

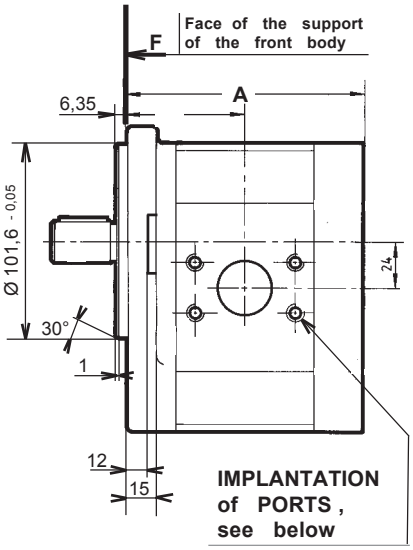
PUBLISHING 05 / 07 / 2000

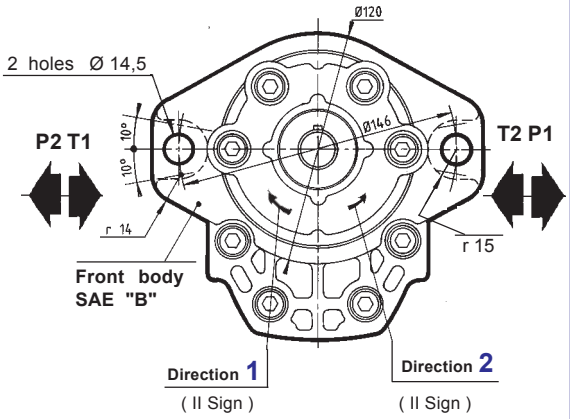
P	II Sign	AA	N	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Signe

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



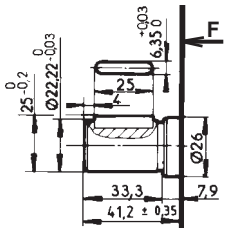




CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	122,7	61,3
050 060	149,2	74,5

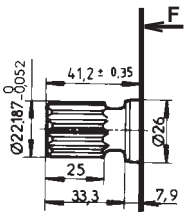
CHOICE of the DRIVING SHAFTS

20 (IX - X Sign)
A02 (XI Sign)



Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A02 (XI Sign)



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

Max. transmissible torque
31 m.daN

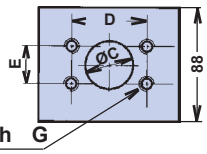
Dimension readings and approximative characteristics subject to modifications .

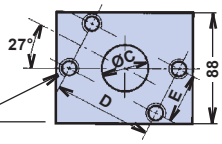
Multiple geared pumps , see data sheet F.T 30 619
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 420

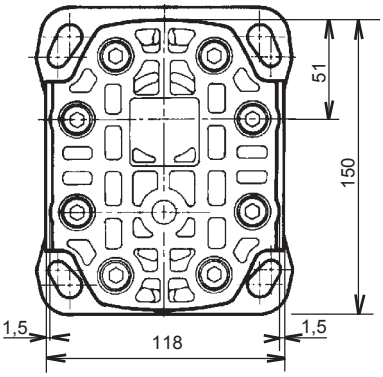
HYDRAULIC GEAR PUMPS SERIES 3 TYPE AAN

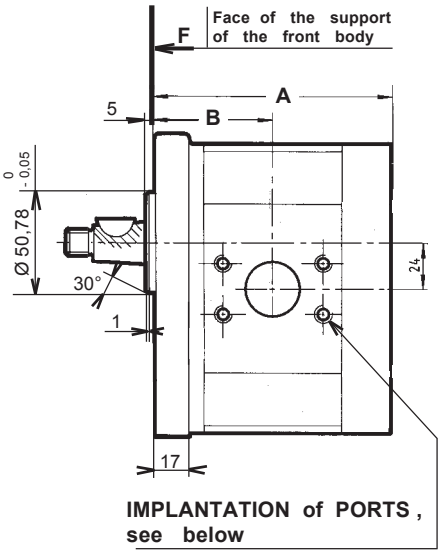
PUBLISHING 05 / 07 / 2000

P	II Sign	BA	N	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

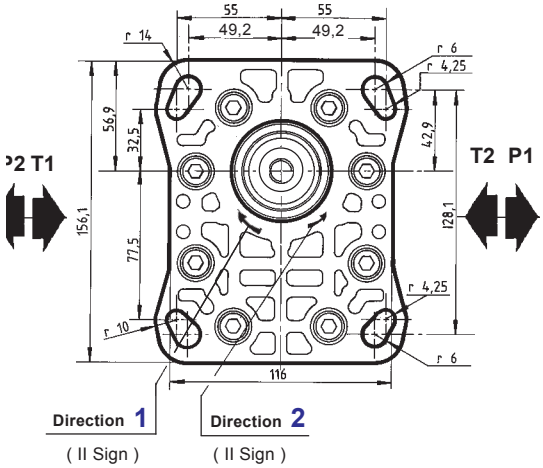
For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir





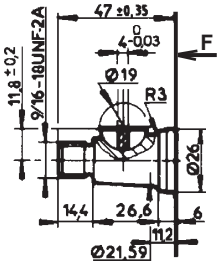
IMPLANTATION of PORTS , see below



Direction 1 (II Sign) Direction 2 (II Sign)

CHOICE of the DRIVING SHAFT

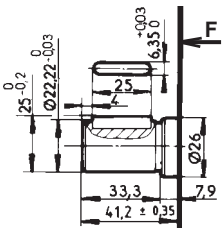
10 (IX - X Sign) **B03** (XI Sign) Taper 1 / 8



For Pumps 3020 to 3100
Delivered with Nut Ref. : 100 734
et Rondelle frein Ref. : 103 945

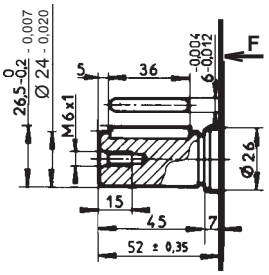
Max. transmissible torque **53** m.daN

20 (IX - X Sign) **A02** (XI Sign)



Max. transmissible torque **29** m.daN

20 (IX - X Sign) **C04** (XI Sign)



Max. transmissible torque **32** m.daN

Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	122,7	61,3
050 - 060	149,2	74,5

Multiple geared pumps , see data sheet F.T 30 619
Rear bodies , see data sheet F.T R 0192

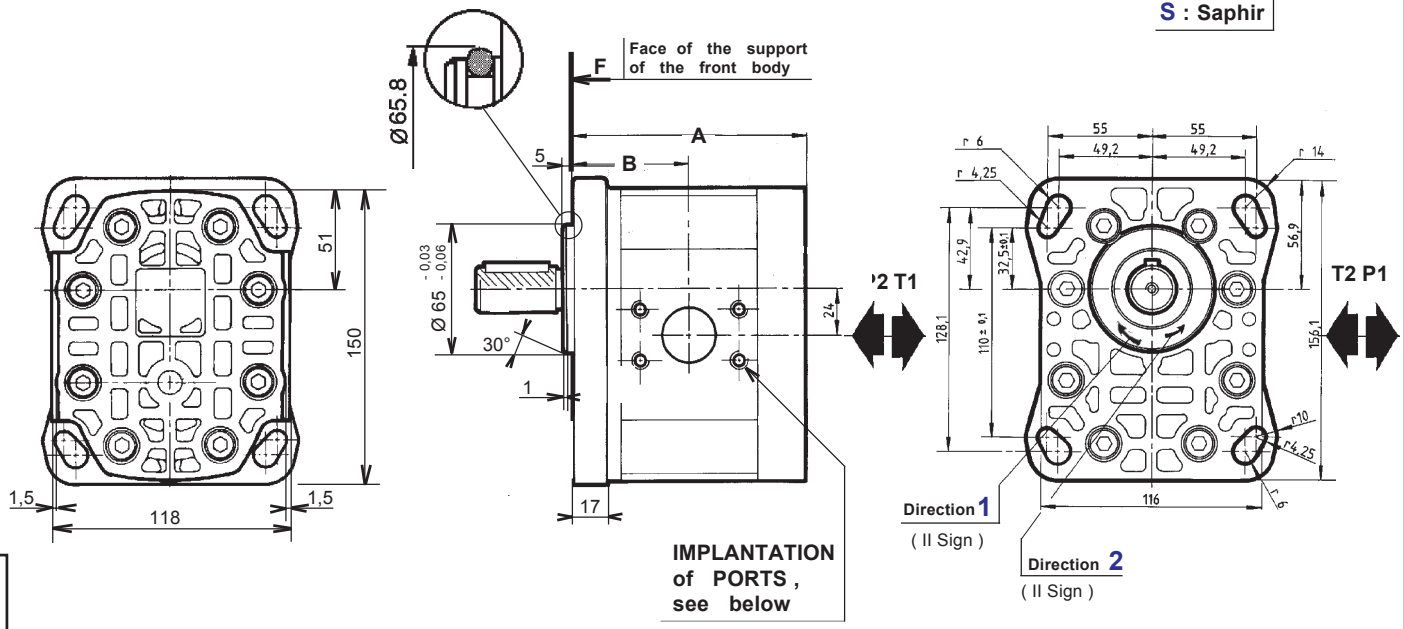
IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
27° Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

F.T 30 421

P	II Sign	CB	K	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

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

N : Nitrile
V : Viton
S : Saphir



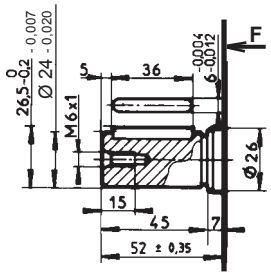
Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	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

Multiple geared pumps , see data sheet **F.T 30 619**
Rear bodies , see data sheet **F.T R 0192**

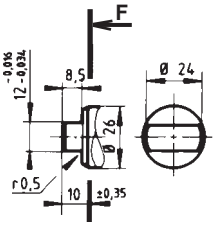
CHOICE of the DRIVING SHAFTS

20 (IX - X Sign)
C04 (XI Sign)



Max. transmissible torque
32 m.daN

40 (IX - X Sign)
C04 (XI Sign)

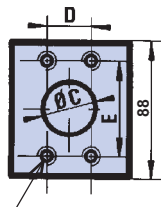


Max. transmissible torque
28 m.daN

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE **N° 70**
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 423

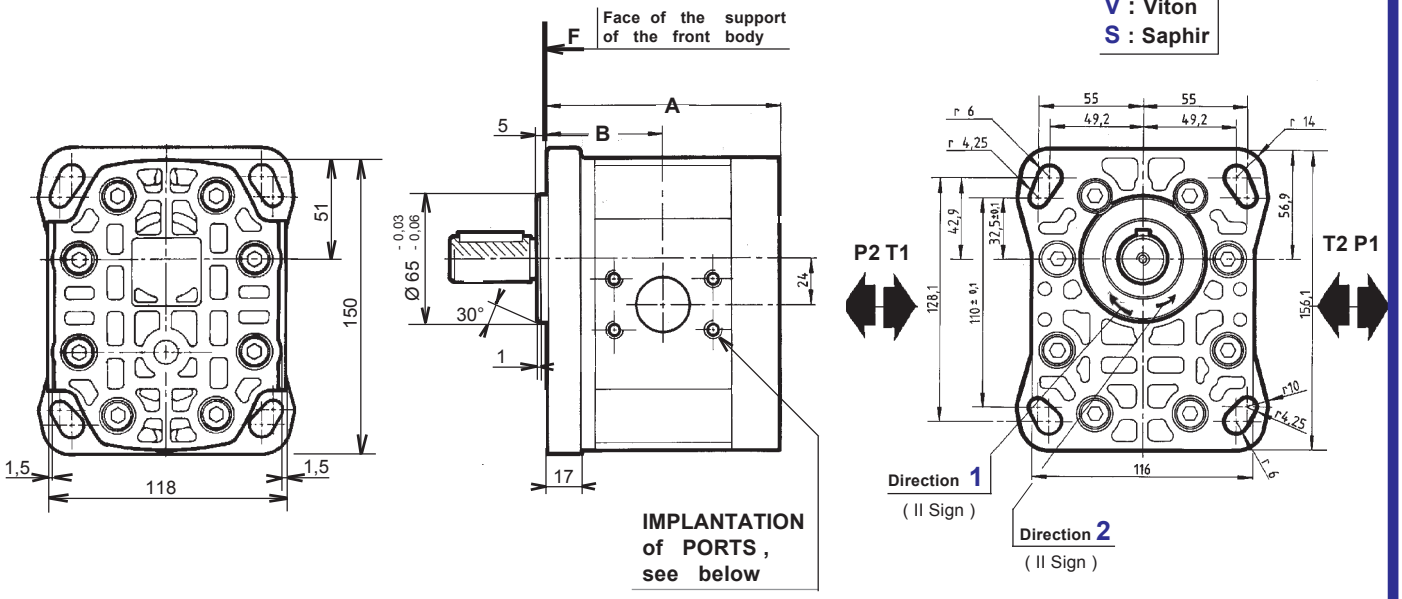
HYDRAULIC GEAR PUMPS SERIES 3 TYPE CBK

PUBLISHING 05 / 07 / 2000

P	II Sign	CB	N	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Signe

For CODIFICATION , see data sheet F.T R 0011

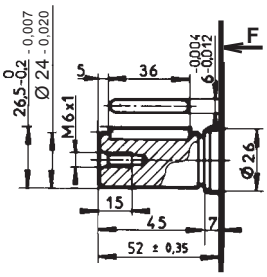
N : Nitrile
V : Viton
S : Saphir



CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	122,7	61,3
050 060	149,2	74,5

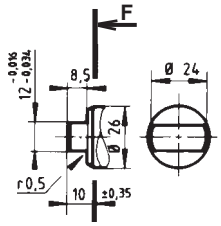
CHOICE of the DRIVING SHAFTS

20 (IX - X Sign)
C04 (XI Sign)



Max. transmissible torque
32 m.daN

40 (IX - X Sign)
C04 (XI Sign)



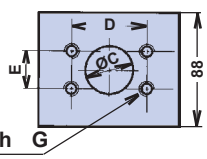
Max. transmissible torque
28 m.daN

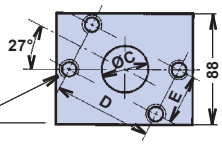
Multiple geared pumps , see data sheet F.T 30 619
Rear bodies , see data sheet F.T R 0192

Dimension readings and approximative characteristics subject to modifications .

IMPLANTATION of PORTS (VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

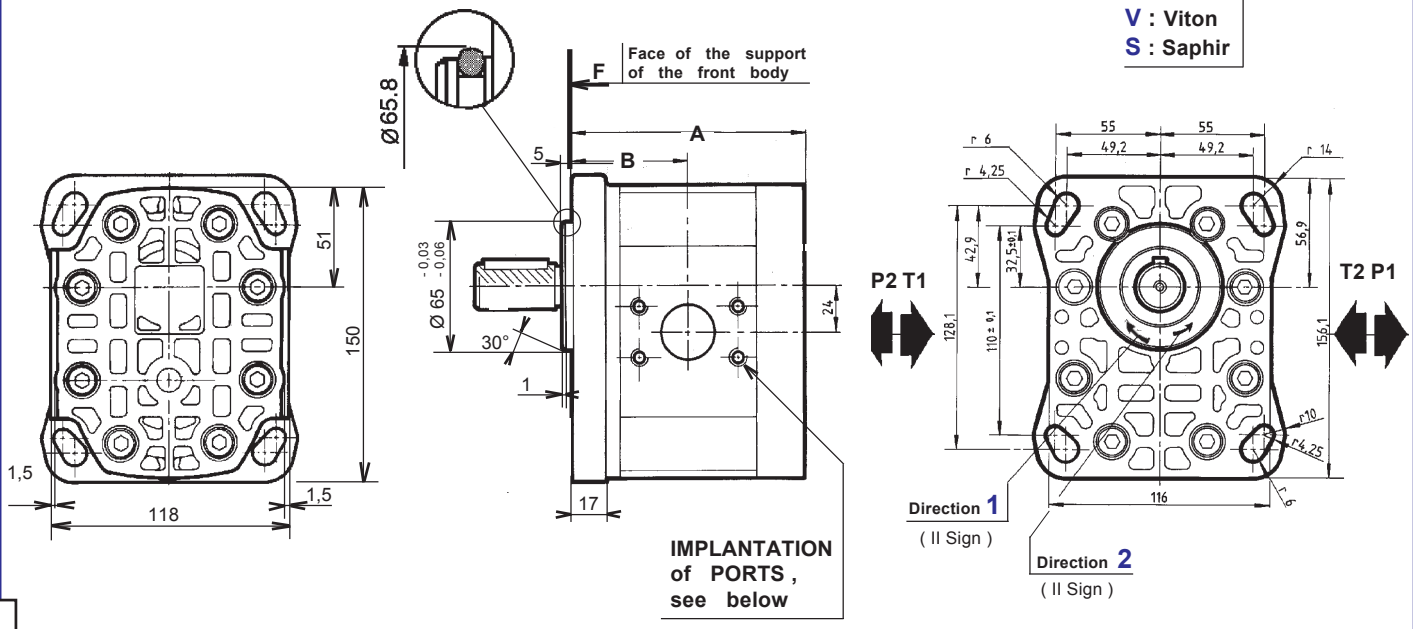
F.T 30 422

HYDRAULIC GEAR PUMPS SERIES 3 TYPE CBN

P	II Sign	CB	K	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

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

N : Nitrile
V : Viton
S : Saphir



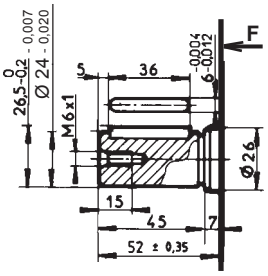
Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	122,7	61,3
050 060	149,2	74,5

Multiple geared pumps , see data sheet **F.T 30 619**
Rear bodies , see data sheet **F.T R 0192**

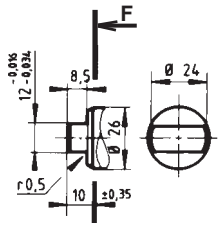
CHOICE of the DRIVING SHAFTS

20 (IX - X Sign)
C04 (XI Sign)



Max. transmissible torque
32 m.daN

40 (IX - X Signe)
C04 (XI Signe)



Max. transmissible torque
28 m.daN

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

F.T 30 424

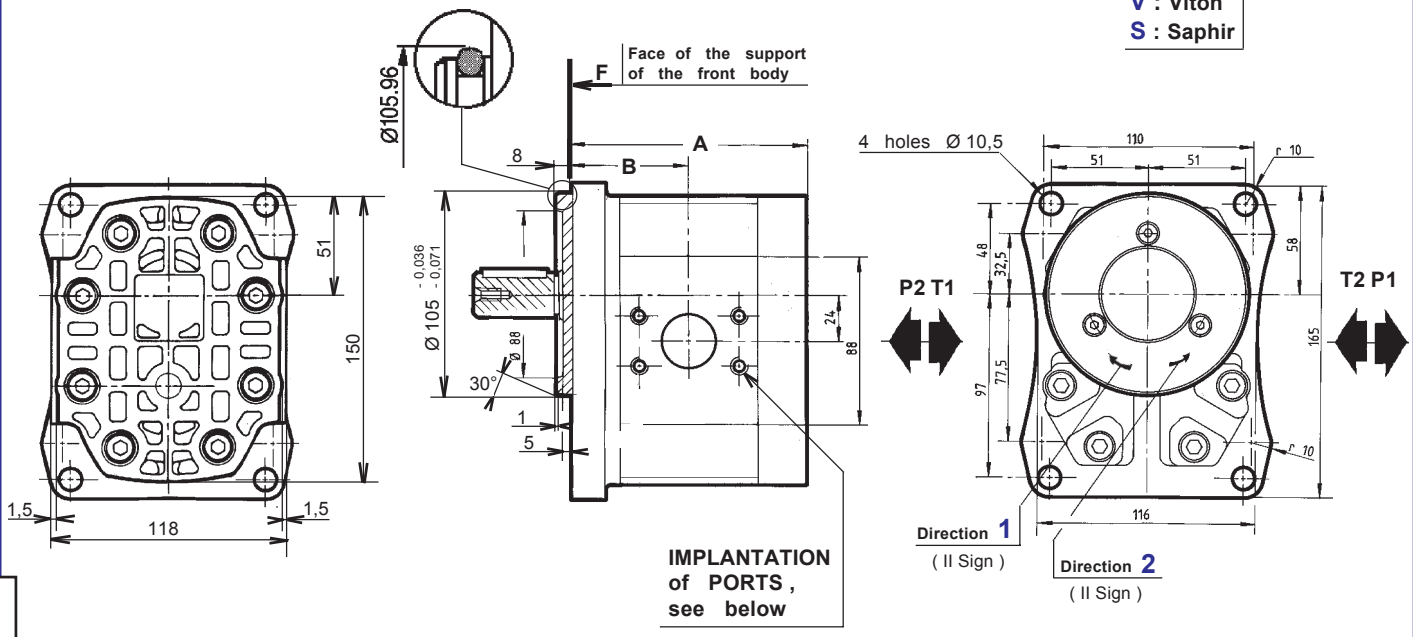
HYDRAULIC GEAR PUMPS SERIES 3 TYPE CBK

PUBLISHING 05 / 07 / 2000

P	II Sign	DB	K	3	VI Sign	H	L	1	0	C04	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



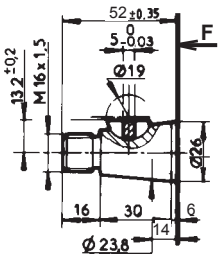
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	122,7	61,3
050 060	149,2	74,5
071 080 090 100	169,2	84,2

Multiple geared pumps , see data sheet F.T 30 619
Rear bodies , see data sheet F.T R 0192

DRIVING SHAFT

10 (IX - X Sign)
C04 (XI Sign)

Taper 1 / 5



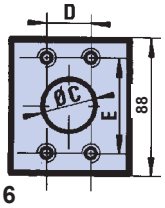
Delivered with Nut Réf. : 106 924

Max. transmissible torque
75 m.daN

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

Dimension readings and approximative characteristics subject to modifications .

F.T 30 429

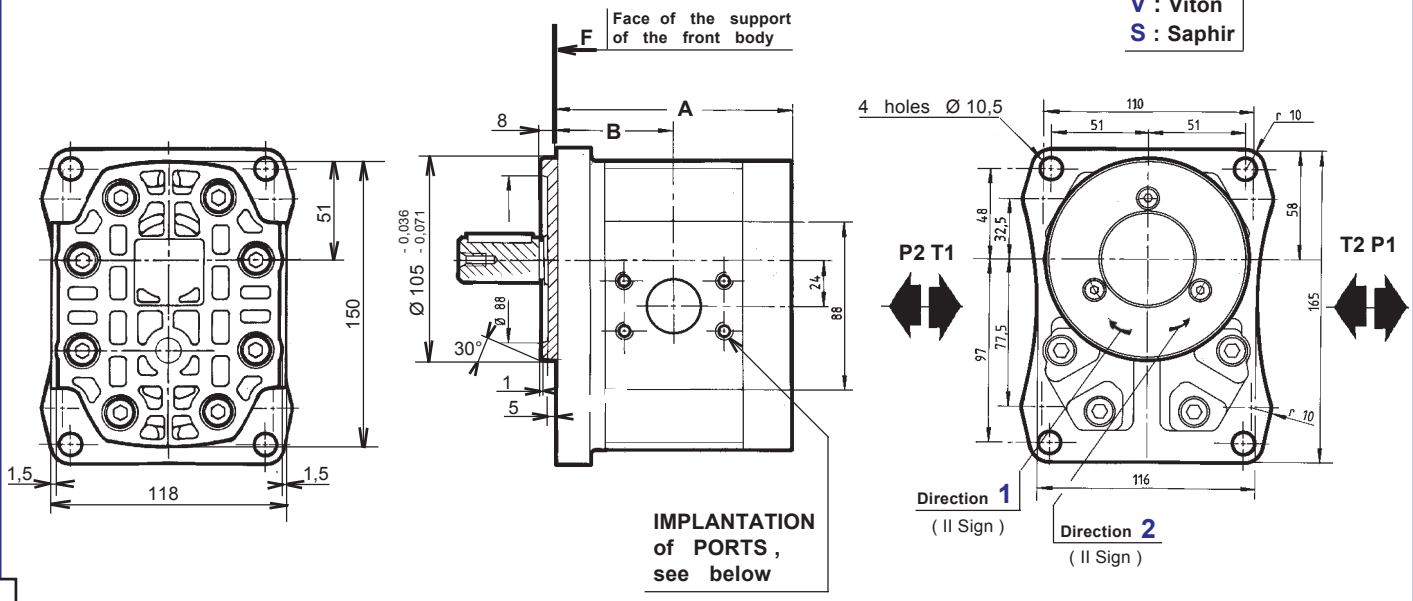
HYDRAULIC GEAR PUMPS SERIES 3 TYPE DBK

PUBLISHING 18 / 06 / 2001

P	II Sign	DB	N	3	VI Sign	Y	L	1	0	C04	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



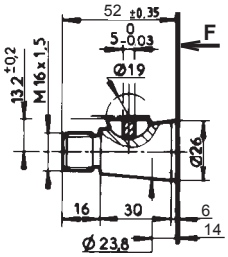
Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	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

Multiple geared pumps , see data sheet F.T 30 619
Rear bodies , see data sheet F.T R 0192

DRIVING SHAFT

10 (IX - X Sign)
C04 (XI Sign)
Taper 1 / 5



Delivered with Nut Réf. : 106 924

Max. transmissible torque
75 m.daN

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

F.T 30 428

HYDRAULIC GEAR PUMPS SERIES 3 TYPE DBN

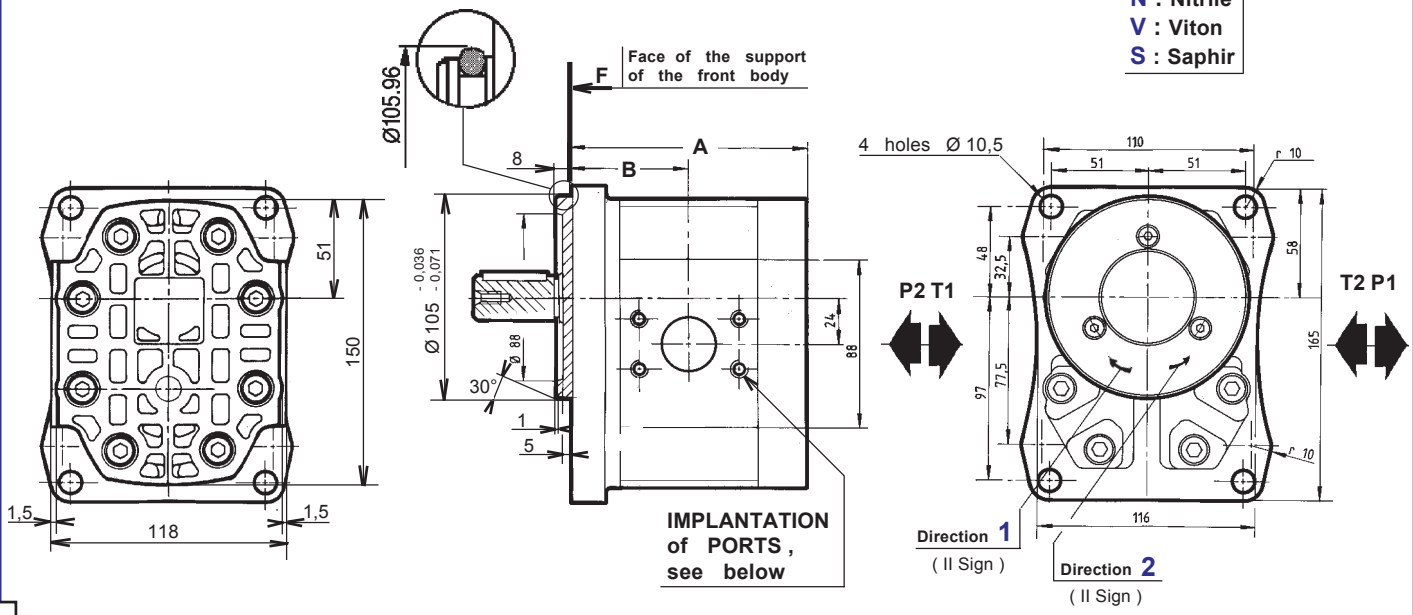
PUBLISHING 18 / 06 / 2001

JTEKT HPI

P	II Sign	DB	K	3	VI Sign	Y	L	1	0	C04	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



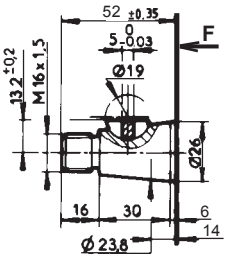
Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	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

Multiple geared pumps , see data sheet F.T 30 619
Rear bodies , see data sheet F.T R 0192

DRIVING SHAFT

10 (IX - X Sign)
C04 (XI Sign)
Taper 1 / 5

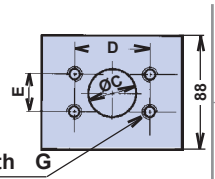


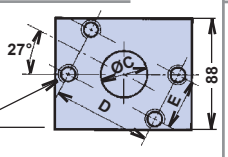
Delivered with Nut Réf. : 106 924

Max. transmissible torque
75 m.daN

IMPLANTATION of PORTS (VII Sign)

Y (ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 430

HYDRAULIC GEAR PUMPS SERIES 3 TYPE DBK

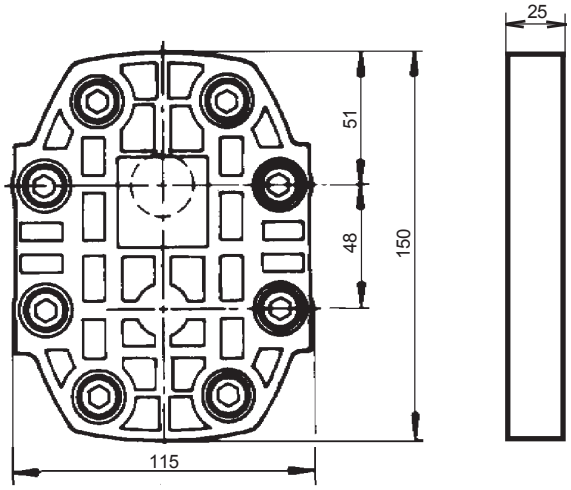
PUBLISHING 18 / 06 / 2001

P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	VIII Sign	IX Sign	IX Sign	XI Sign	XII Sign

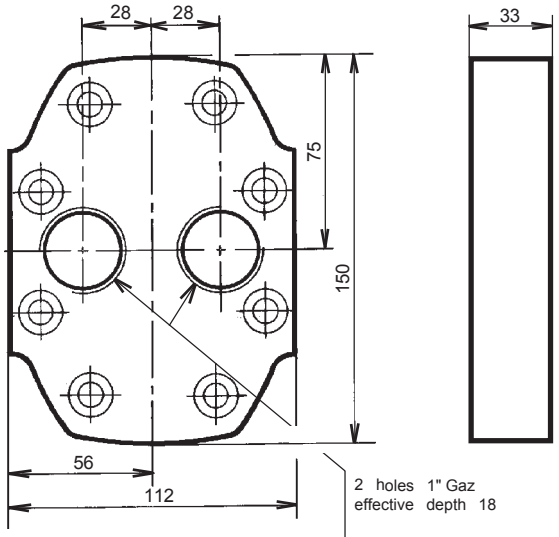
For CODIFICATION , see data sheet **F.T R 0011**

N : Nitrile
V : Viton
S : Saphir

L (VIII Sign) **Standard (no port)**



A (VIII Sign) **With ports**



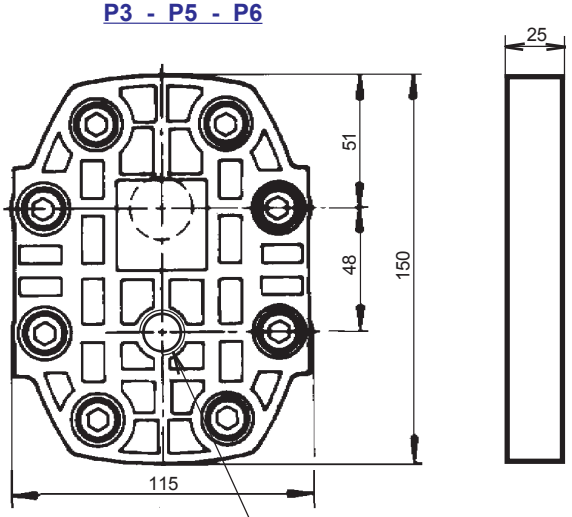
2 holes 1" Gaz
effective depth 18

Max. tightening torque of the connection :
6 $^{+0,5}_{0}$ **m.daN**

Maxi flow : **160 l / min**

L (VIII Sign) **Standard (no port)**

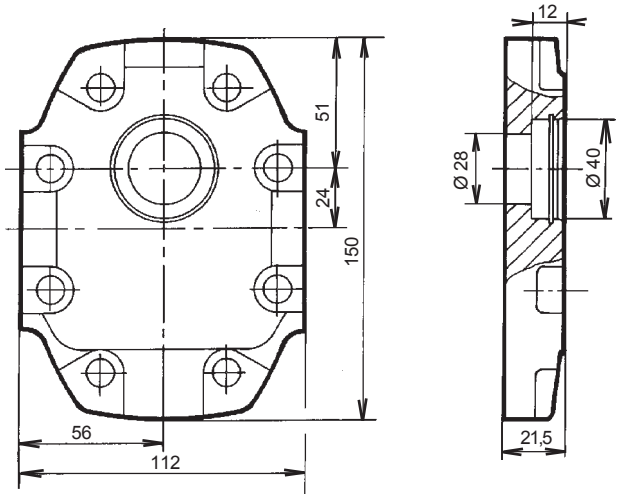
For singles pumps
P3 - P5 - P6



Drain port 3/8" BSP
effective depth 18

Max. tightening torque of the connexion :
5 $^{+0,5}_{0}$ **Kgm**

Z (VIII Sign) **Double shaft port**



Dimension readings and approximative characteristics subject to modifications .

F.T R 0192 1/3

HYDRAULIC GEAR PUMPS SERIES 3

REAR BODY

Following Page

PUBLISHING 04 / 12 / 2001

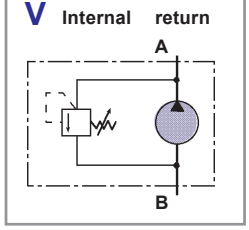
P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	V	IX Sign	IX Sign	XI Sign	XII Sign	006	V15

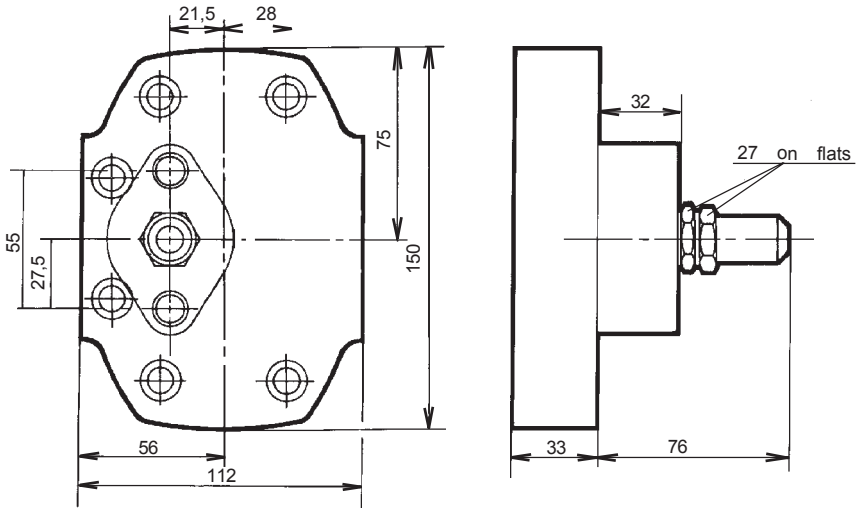
For CODIFICATION , see data sheet F.T R 0011

N : Nitril
V : Viton
S : Saphir

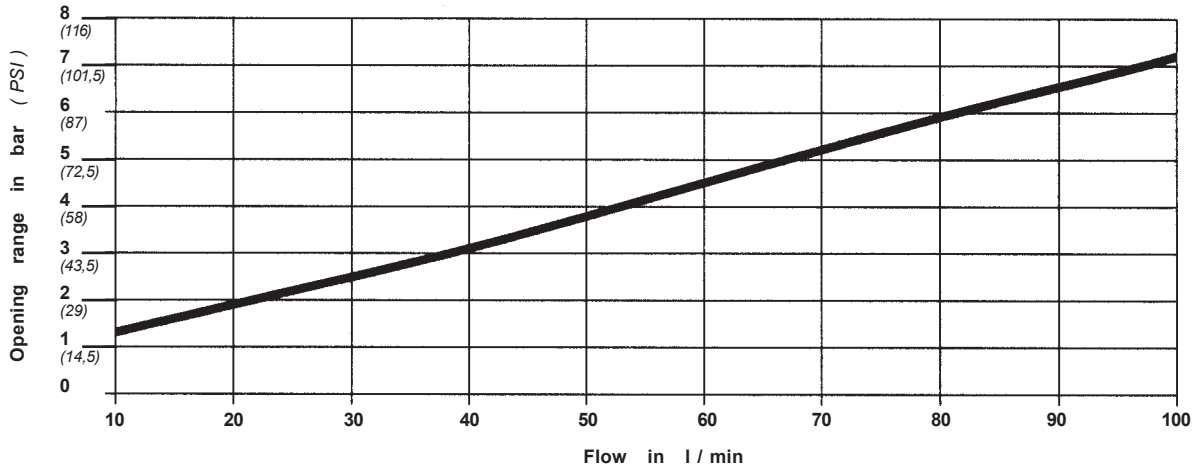
V (VIII Sign) **Low pressure relief valve (Adjustable) Internal return**

SYMBOL





OPENING RANGE



Curves made with the oil SHELL Tellus T46 (46 cSt) to 40° C

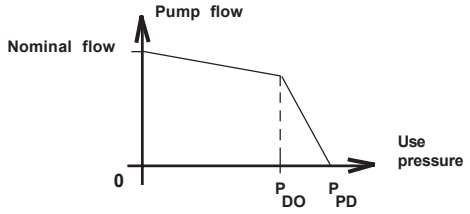
Pressure at opening begin mini : 5 bar (72,5 PSI)
Max. : 10 bar (145 PSI)

Setting tolerance : ± 1 bar *(14,5 PSI)*

Full flow setting

XIII Sign **006** ▷ **Example :** **Pressure of by-pass Full flow ± 1 bar (14,5 PSI) to 46 cSt**
006 = 6 bar (87 PSI)

XIV Sign **V15** ▷ **Example :** **V Speed**
15 Speed / 100 ⇒ **1500 rev / min**



P_{DO} Pressure at opening begin (depending on setting)

P_{PD} Full flow pressure (depending on setting and flow)

Opening range = $P_{PD} - P_{DO}$

Dimension readings and approximative characteristics subject to modifications .

F.T R 0192 2/3

Preceding Page
Following Page

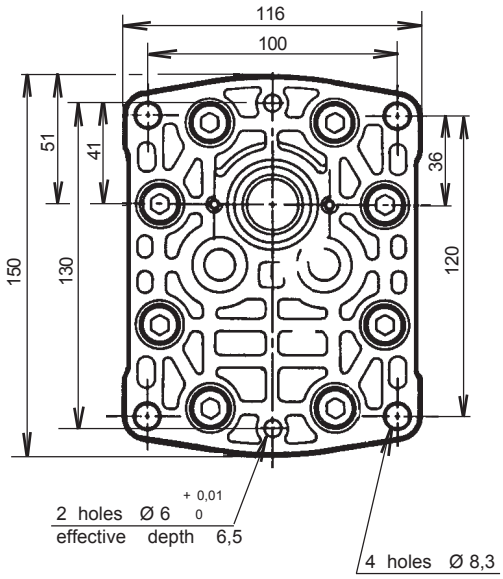
HYDRAULIC GEAR PUMPS SERIES
REAR BODY

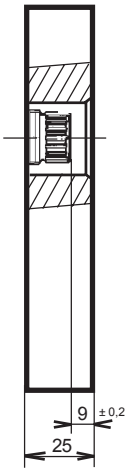
P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	J	IX Sign	IX Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

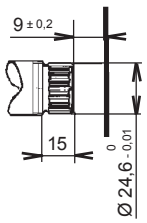
N : Nitrile
V : Viton
S : Saphir

J (VIII Sign) **Pre - arrangement with mounting " Module 3 "**





33 (IX - X Sign)
C15 (XI Sign)



Involute spiine shaft
25 x 13 x 1,667
to norm NF E 22 141 - BNA 455
Spigot on free flanks

Max. transmissible torque

48 **m.daN**

Dimension readings and approximative characteristics subject to modifications .

F.T R 0192 3/3

Preceding Page

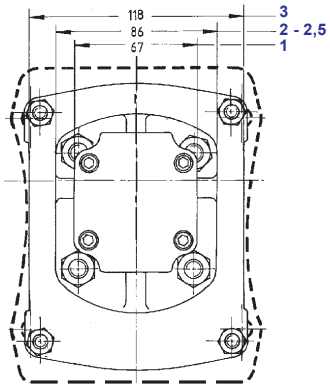
HYDRAULIC GEAR PUMPS SERIES 3

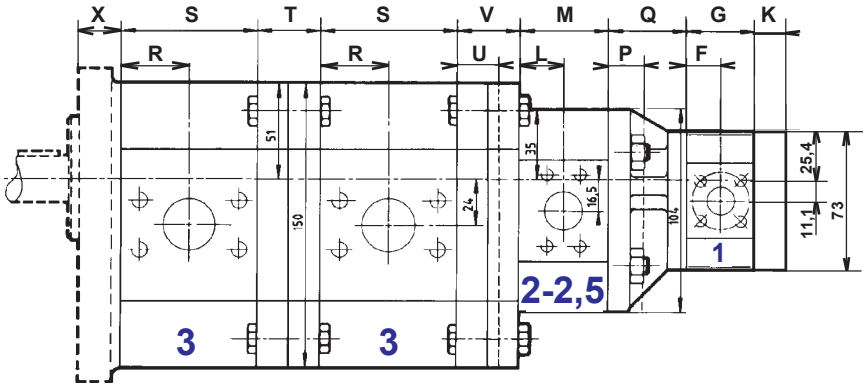
REAR BODY

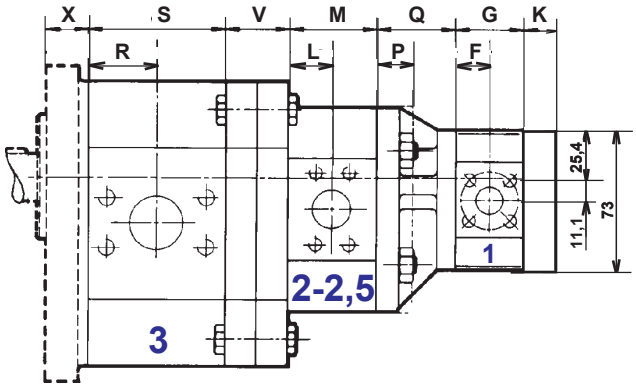
P	II Sign	III Sign	IV Sign	3	VI Sign	IIV Sign	A	2	X Sign	XI Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

For CODIFICATION , see data sheet **F.T R 0030**

N : Nitrile
V : Viton
S : Saphir







ATTENTION

For common suctions .

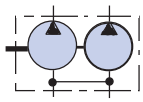
The flow of the pump , or pump preceding or following the section including the suction must not exceed **160 l / min .**

- **Hydraulic characteristics ,**
- **Driving shafts ,**
- **Supply ports implantation**
- **Dimensions of " Front body " : see the technical data sheets of the single pumps quoted overleaf .**

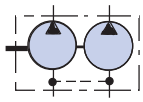
Different mounting possibilities between multiple pumps , see data sheet F.T R 0029

JUNCTIONS BODY

Code A (VIII Sign) — **Communication between suction ports** (Capacity of the pump without suction ≥ half of the capacity of the front body)



Code D (VIII Sign) — **Independant inlet side (communication of leaks)** (Oil and tank to be necessarily)



Dimensions **X** , see following page

NOTA : Version 3 / 1 only Code D
Version 3 / 3 only Codes A and D

SERIES (V - IX Sign)	Capacity (VI - X Sign)	R	S	T	U	V	Q	L	M	N	F	G	K
3	020 to 040	36,3	72,7	50	25	45							
	050 060	49,5	99,2										
	071 to 100	59,2	119,2										
2,5	12						42	31	61,6	24			
	15 to 22							38,8	77,7				
2	004 to 012						42	23,5	47,0	24			
	015 to 022							31	61,6				
	026 030							38,8	77,7				
1	001 to 003										17,9	35,8	18
	004 to 006										22,7	45,6	

MULTIPLE GEARED PUMPS

SERIES **3** (FLAT FRONT BODY)

Following Page

PUBLISHING 06 / 02 / 2002

P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	A	2	X Sign	VIII Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

For CODIFICATION , data sheet F.T R 0030

N : Nitrile
V : Viton
S : Saphir

Front body sheets Types (III - IV Sign)	Dimensions X	Data references
AAN (Y)	25	F.T 30 420
BAN (Y)	25	F.T 30 421
CBN (Y)	25	F.T 30 422
CBK (H)	25	F.T 30 423
CBK (Y)	25	F.T 30 424
DBN (H)	25	F.T 30 427
DBN (Y)	25	F.T 30 428
DBK (H)	25	F.T 30 429
DBK (Y)	25	F.T 30 430

Dimension readings and approximative characteristics subject to modifications .

TORQUE CALCULATION

Q Capacity in cc / rev
P Pressure in bar
η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque for one pump body : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 CBN 3060 H A 2008 H L 20 C04 Pressure : 3060 200 bar 2008 150 bar Speed : 1500 RPM

$\frac{1,56 \times 60 \times 200}{1000 \times 0,88} = 21,27$ m.daN

$\frac{1,56 \times 8 \times 150}{1000 \times 0,85} = 2,2$ m.daN

$= \boxed{23,47 \text{ m.daN}} \Longrightarrow$ Total torque

Preceding Page

GENERAL CATALOGUE (G10)

Hydraulic gear pumps

Series 3

Thick Front Body

Publishing 01 / 2003

G10 | 196 | 00

PUMPS CHARACTERISTICS

MODEL (V-VI Sign)	Capacity	PEAK PRESSURE		MAX. WORKING PRESSURE		Maxi Speed	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and m.daN	Approximate weight
							at 1500 RPM	at Maxi Speed			
	cc / rev	bar	PSI	bar	PSI	RPM	l / min	l / min			Kg
3020	21,10	275	3987	235	3410	3000	31,65	63,3	3,75	3,35	6,4
3025	25,80	275	3987	235	3410	3000	38,70	77,4	4,60	4,10	
3031	32,10	275	3987	235	3410	3000	48,15	96,3	5,66	5,11	
3040	41,50	275	3987	235	3410	3000	62,25	124,5	7,28	6,60	6,5
3050	51,65	250	3625	215	3120	3000	77,47	154,9	8,97	8,22	7,7
3060	62,60	225	3262	190	2755	2500	93,90	156,5	10,60	9,96	7,8
3071	73,55	225	3262	190	2755	2500	110,32	183,8	12,50	11,71	8,3
3080	82,95	200	2900	170	2465	2200	124,42	182,4	14,20	13,20	8,4
3090	92,95	150	2175	130	1885	2000	139,42	185,9	16,30	14,80	8,6
3100	103,9	150	2175	130	1885	2000	155,85	207,8	18,10	16,54	8,8

Performances and Output Curves. (Thanks to contact us)
(Tests effected with Oil SHELL Tellus T 46)

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.

TORQUE CALCULATION

Q Capacity in cc / rev

P Pressure in bar

η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 AEZ 3060 Y L 20 A04 Pressure : 200 bar Speed : 2000 RPM

Torque = $\frac{1,56 \times 60 \times 200}{1000 \times 0,88}$ = 21,27 m.daN

Dimension readings and approximative characteristics subject to modifications .

F.T R 0207

" GENERAL " CATALOGUE MOUNTING POSSIBILITIES

FRONT BODY (III - IV Sign)		CENTRAL BODY (VII Sign)		REAR BODY (VIII Sign)				TYPE and SHAFT CODE (IX - X - XI Sign)	
A	Z	H	Y	L	V	W	A	20	30
AAP - AEP			●		●	●		20A04 20A07	30A19 30A20
AAR - AER			●		●	●		20A04 20A07	30A19 30A20
AAX - AEX			●		●	●		20A04 20A07	30A19 30A20
AAZ - AEZ			●		●	●		20A04 20A07	30A19 30A20
ABP			●		●	●		20A04 20A07	30A19 30A20
ABR			●		●	●		20A04 20A07	30A19 30A20
ABX			●		●	●		20A04 20A07	30A19 30A20
ABZ			●		●	●		20A04 20A07	30A19 30A20
ADP			●		●	●		20A04 20A05 20A07	30A04 30A19 30A20
ADR			●		●	●		20A05	30A04
ADX			●		●	●		20A05	30A04
ADZ			●		●	●		20A05	30A04
AEP			●		●	●		20A04 20A07	30A19 30A20
	ZFC		●		●	●			30D04

Not feasible versions " GENERAL "

other possibilities : please refer to " BASIC " catalogue B10

● Capacities 3020 to 3060 only

Flat front body , see data sheet F.T R 0174

Our "BASIC" catalogue includes versions of our series 0 to 5 pumps according to European and American Standards (SAE) .

HYDRAULIC GEAR PUMPS

SERIES 3 (THICK FRONT BODY)

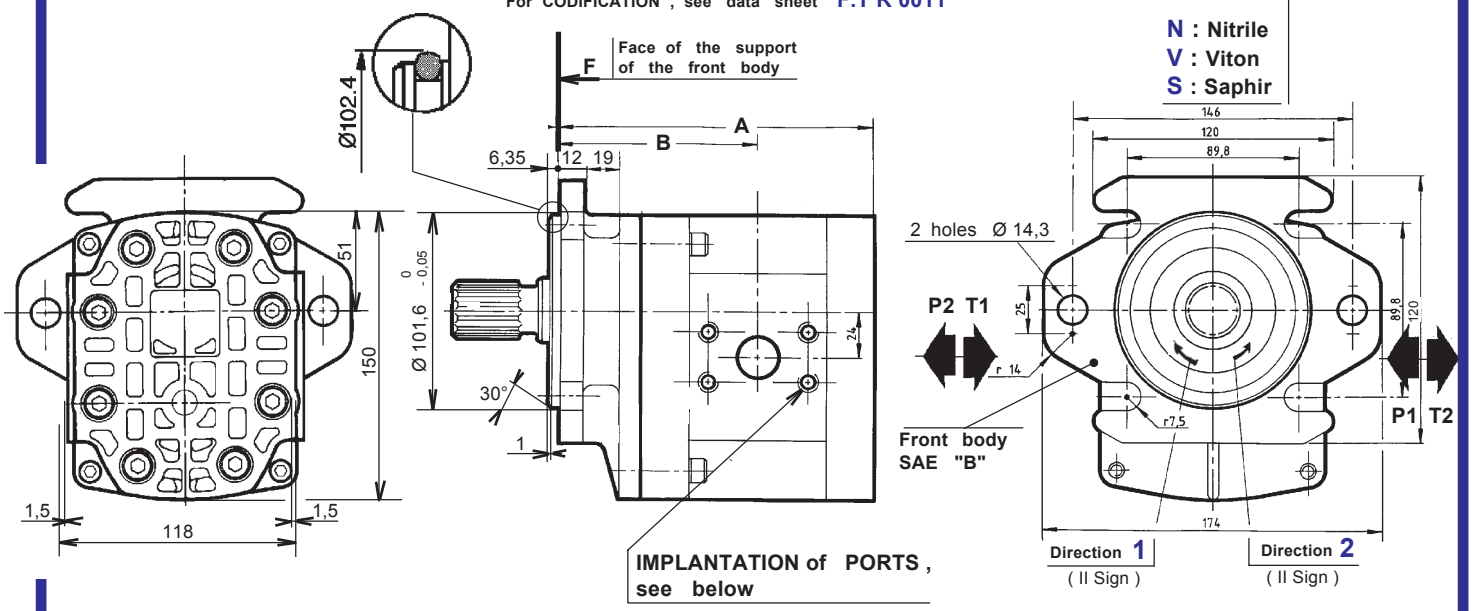
Dimension readings and approximative characteristics subject to modifications .

F.T R 0175

P	II Sign	III Sign	R	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

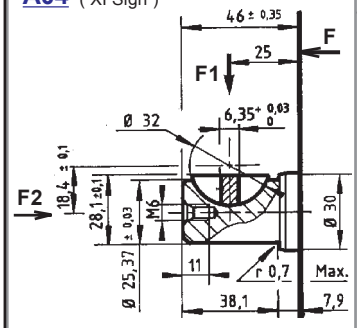
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

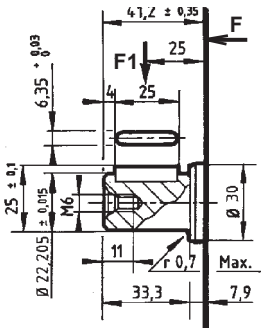
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

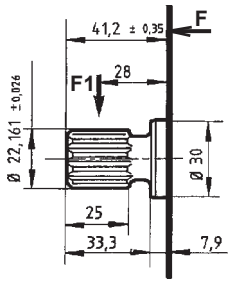
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

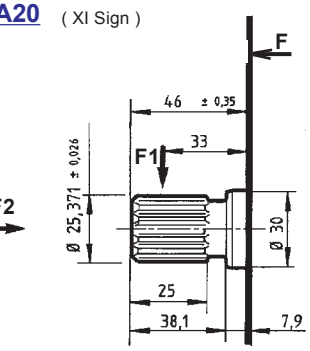


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

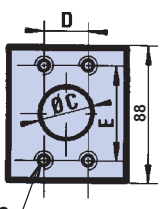
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

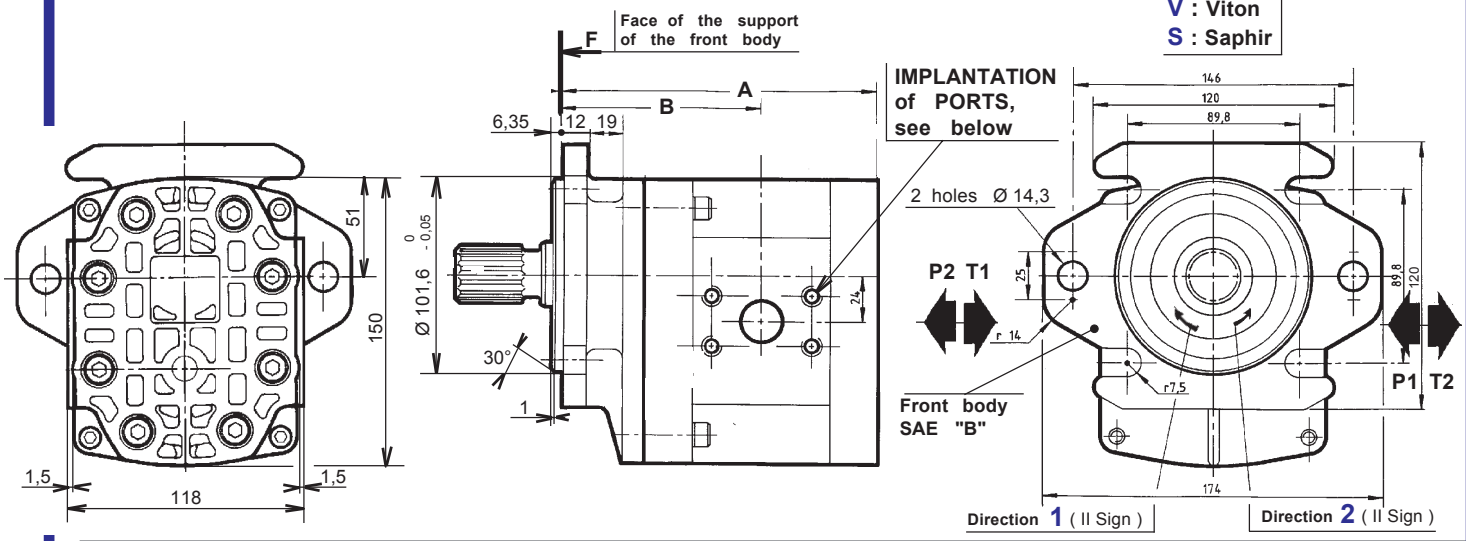
CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

P	II Sign	III Sign	P	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

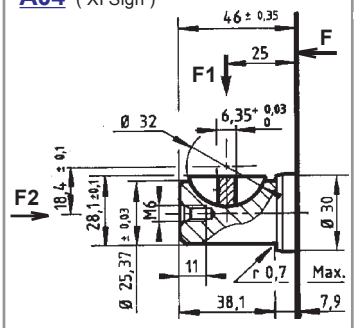
For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



CHOICE of the DRIVING SHAFTS

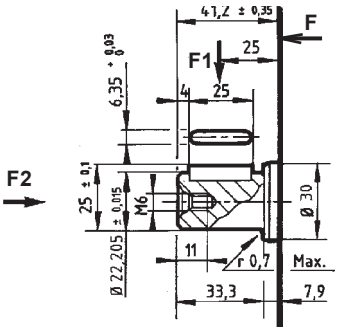
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

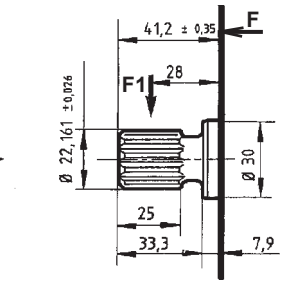
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

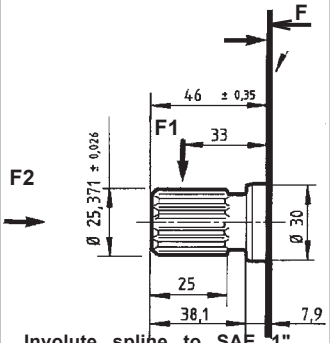


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

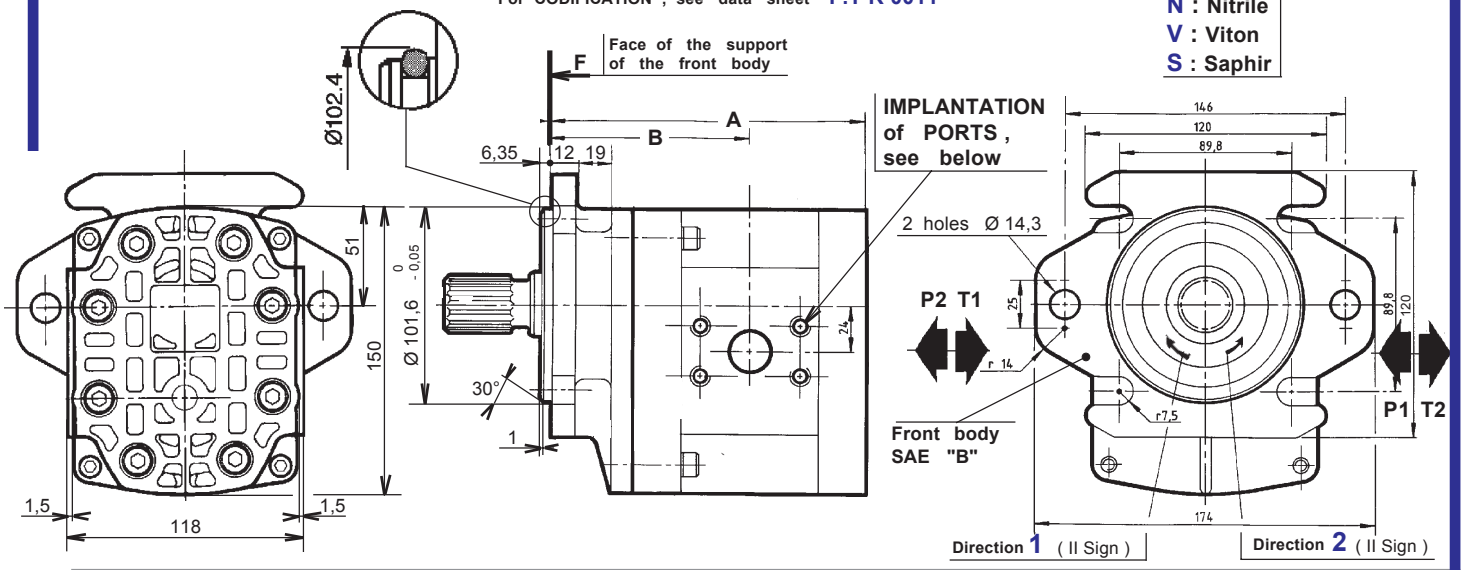
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

P	II Sign	III Sign	R	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

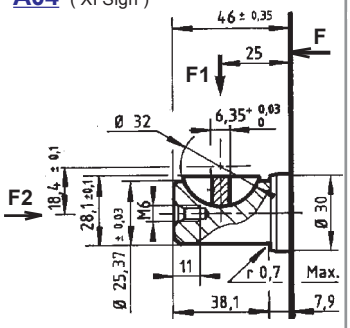
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

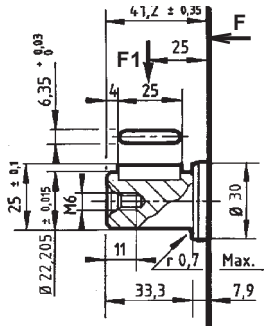
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

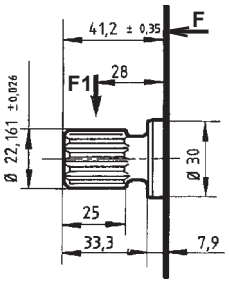
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

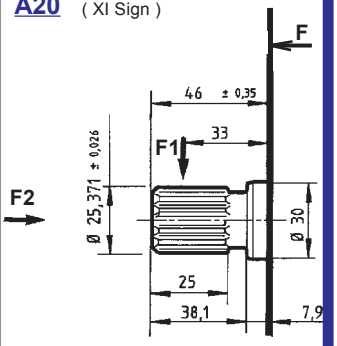


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

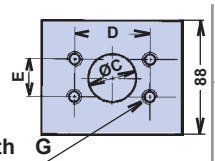
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,5
050 - 060	192,2	117,5

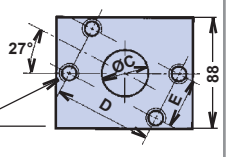
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

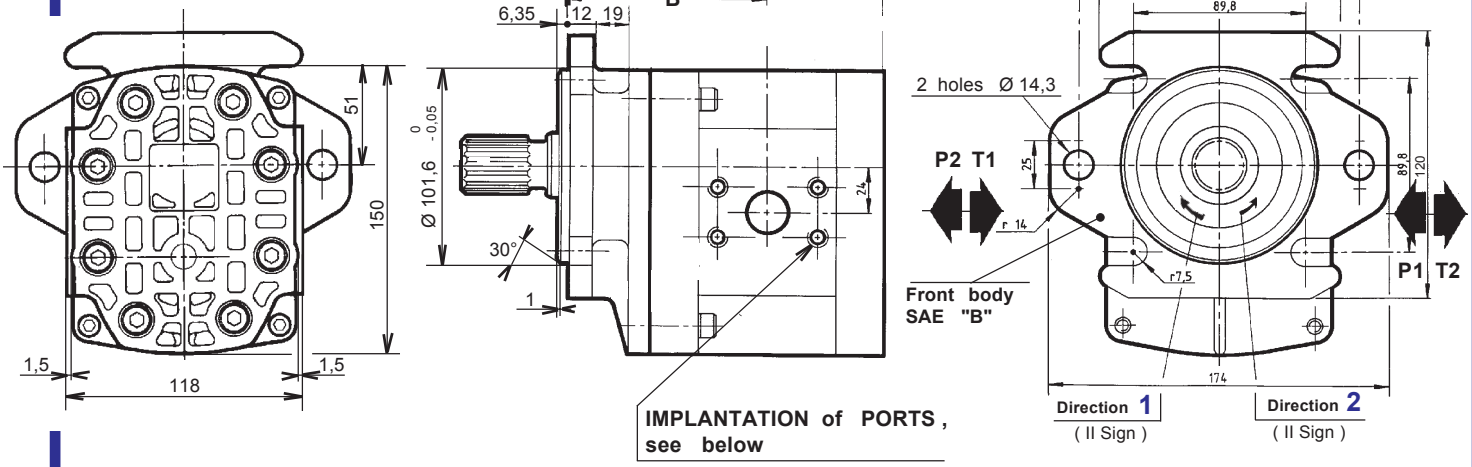
Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 434

P	II Sign	III Sign	X	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

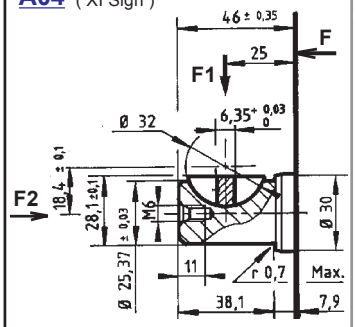
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

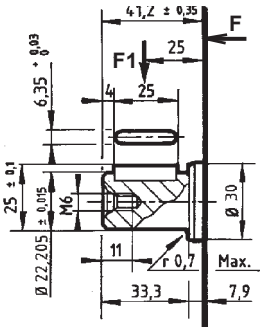
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

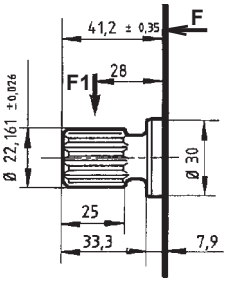
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

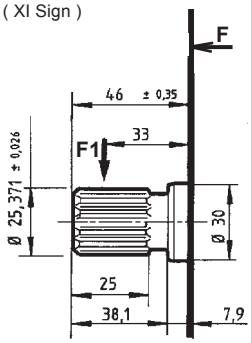


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

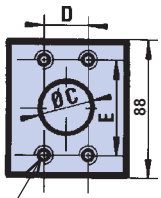
Max. transmissible torque
49 m.daN

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)

H (HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 435

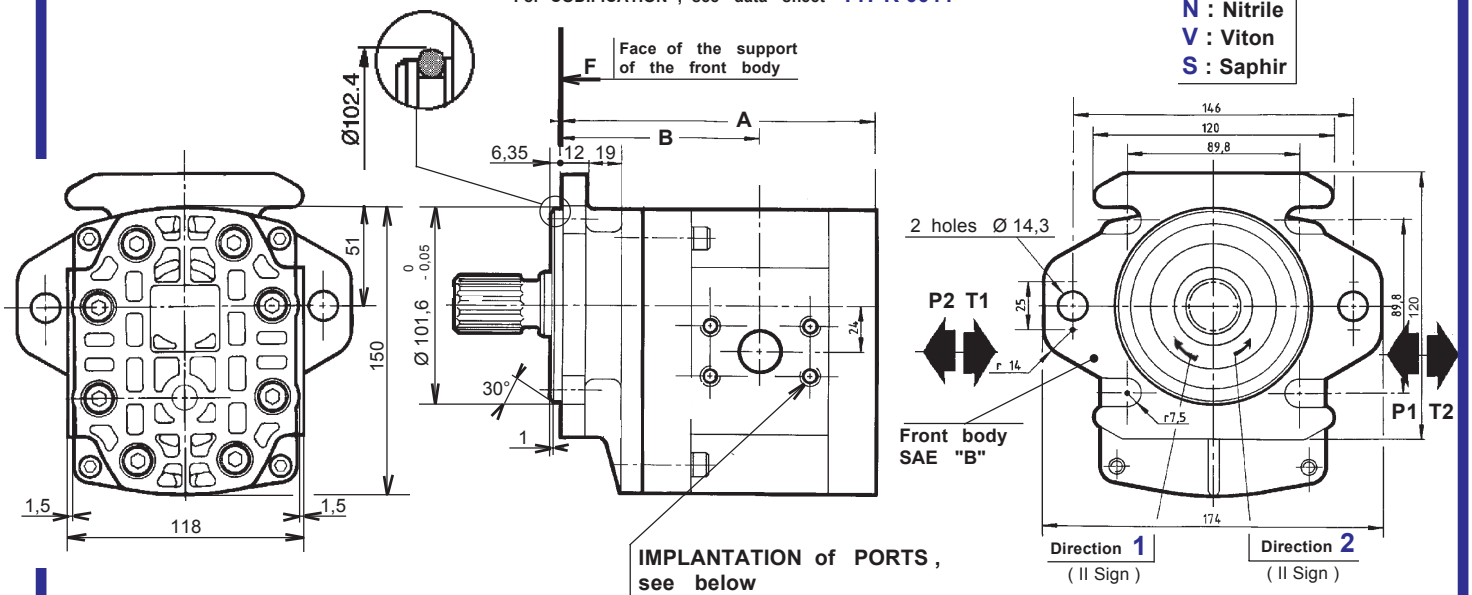
HYDRAULIC GEAR PUMPS SERIES **3** TYPE **AAX - AER**

PUBLISHING 06 / 02 / 2002

P	II Sign	III Sign	Z	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir

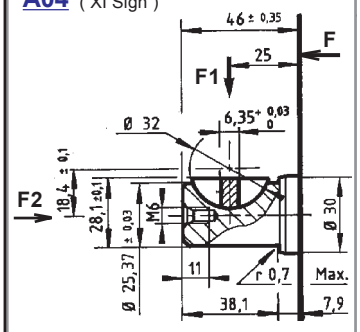


IMPLANTATION of PORTS , see below

Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

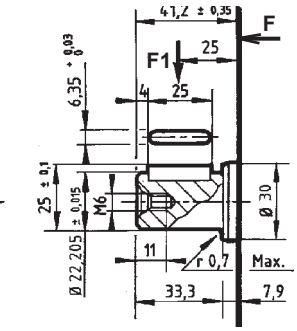
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

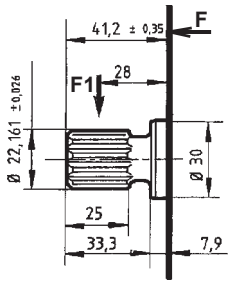
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

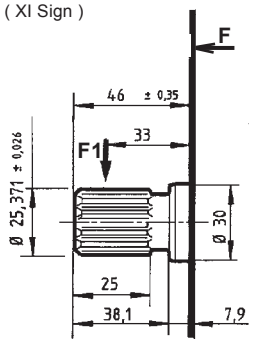


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

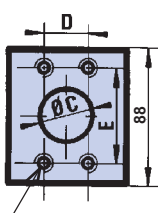
Max. transmissible torque
49 m.daN

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)

H (HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

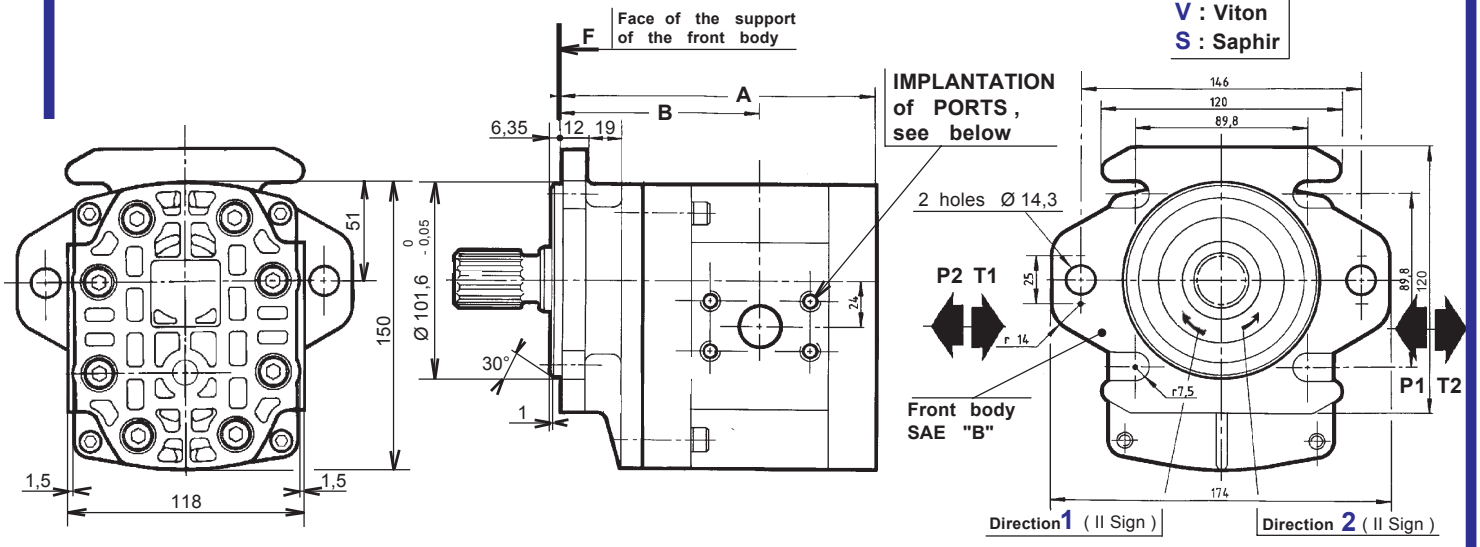
CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

P	II Sign	III Sign	X	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

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

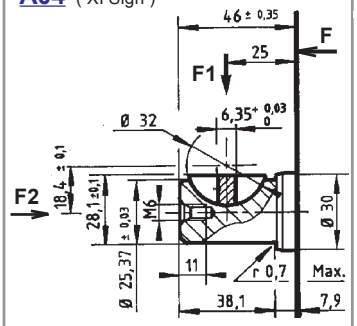
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

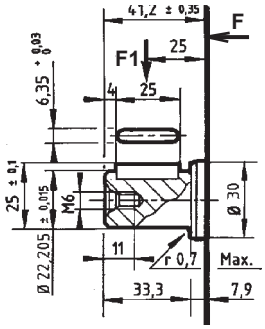
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

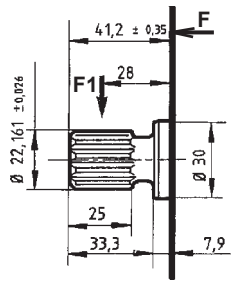
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

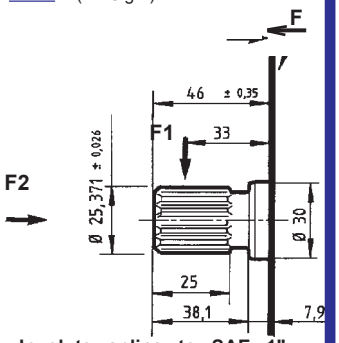


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

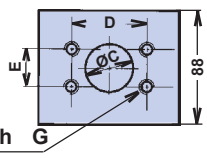
Max. transmissible torque
49 m.daN

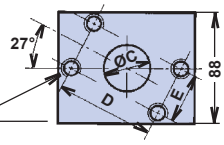
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

IMPLANTATION of PORTS (VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

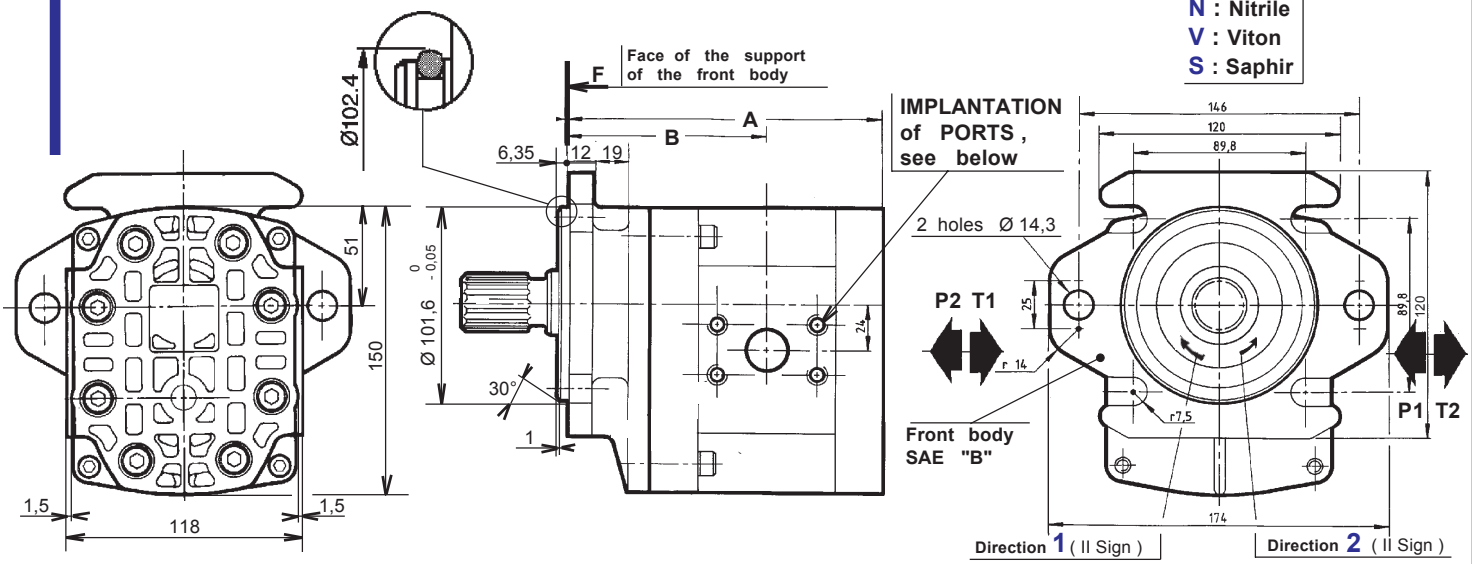
Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 439

P	II Sign	III Sign	Z	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

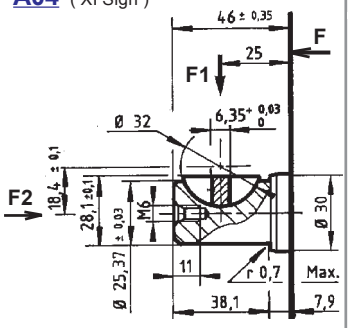
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

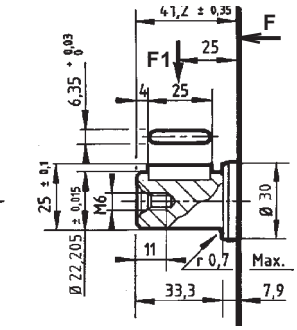
20 A04 (IX - X Sign) (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

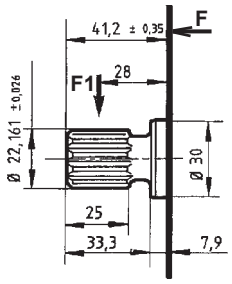
20 A07 (IX - X Sign) (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 A19 (IX - X Sign) (XI Sign)

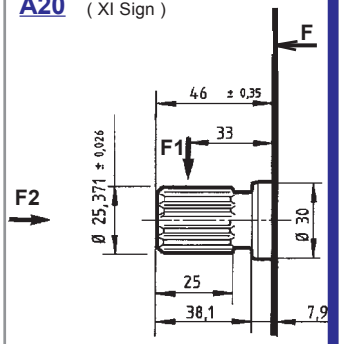


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 A20 (IX - X Sign) (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

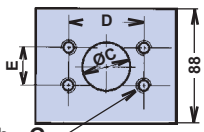
Max. transmissible torque
49 m.daN

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

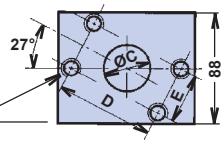
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)

Y (ISO 6162)



Ø F
effective depth G



Ø F
effective depth G

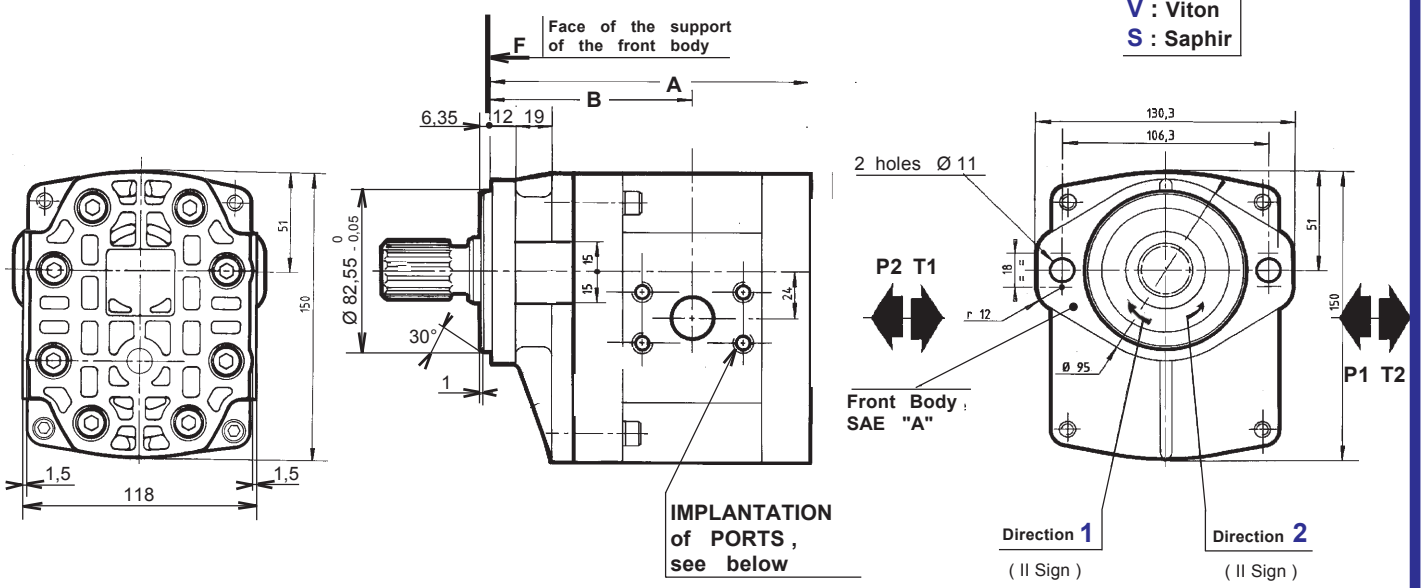
Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 442

P	II Sign	AB	P	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

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

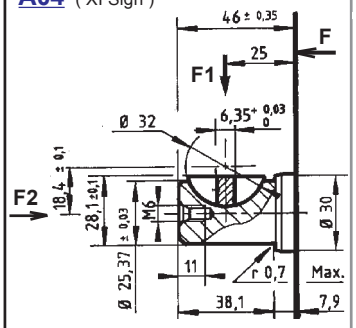
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

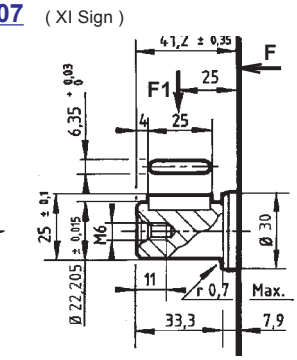
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

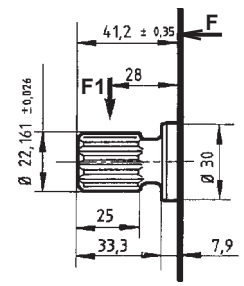
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

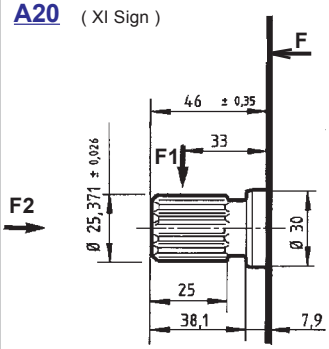


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

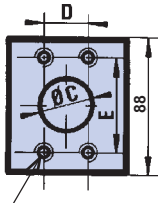
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

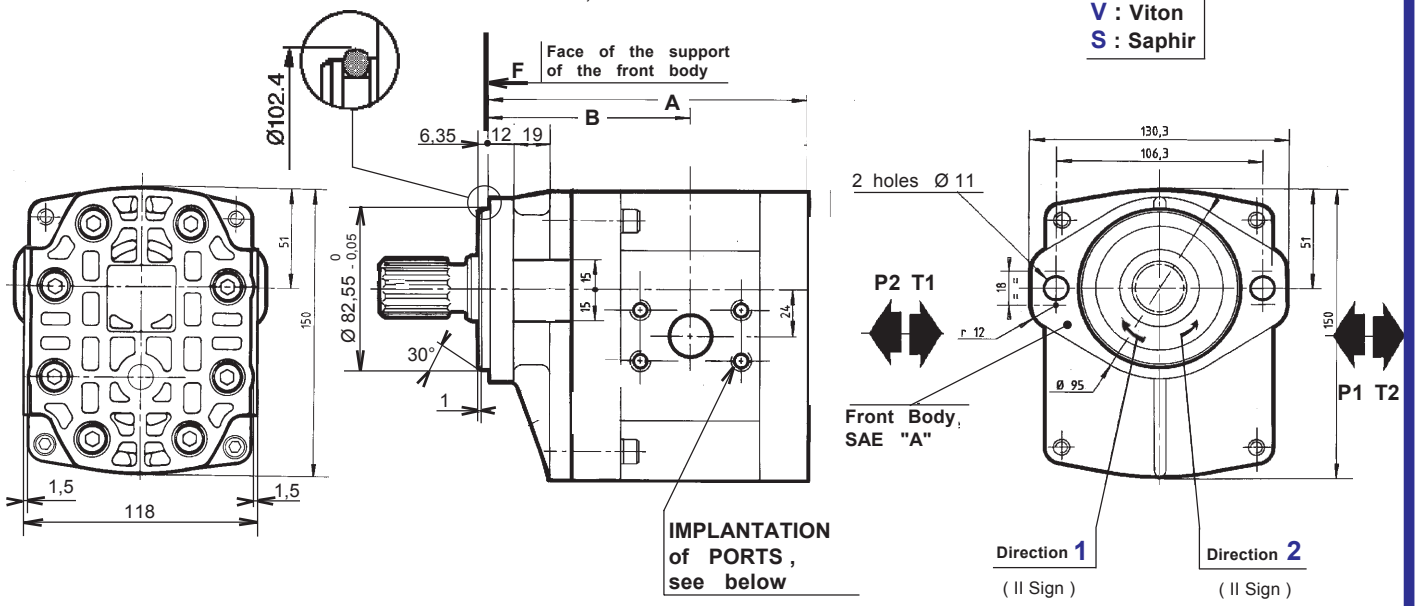
CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

P	II Sign	AB	R	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

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

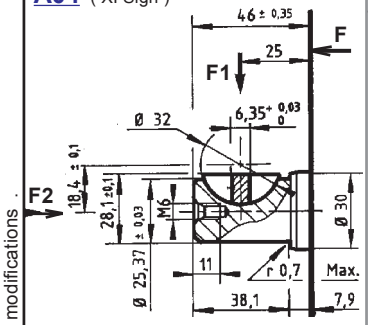
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

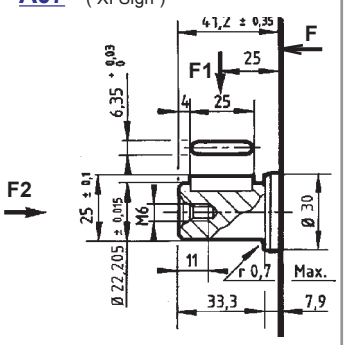
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

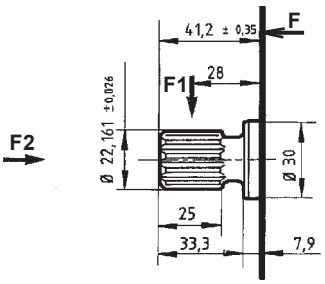
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

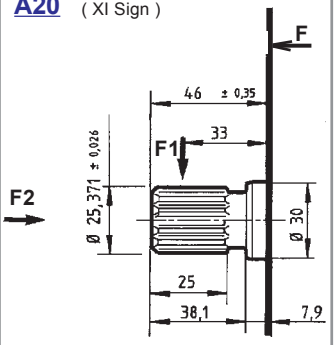


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

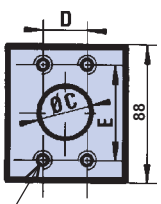
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 458

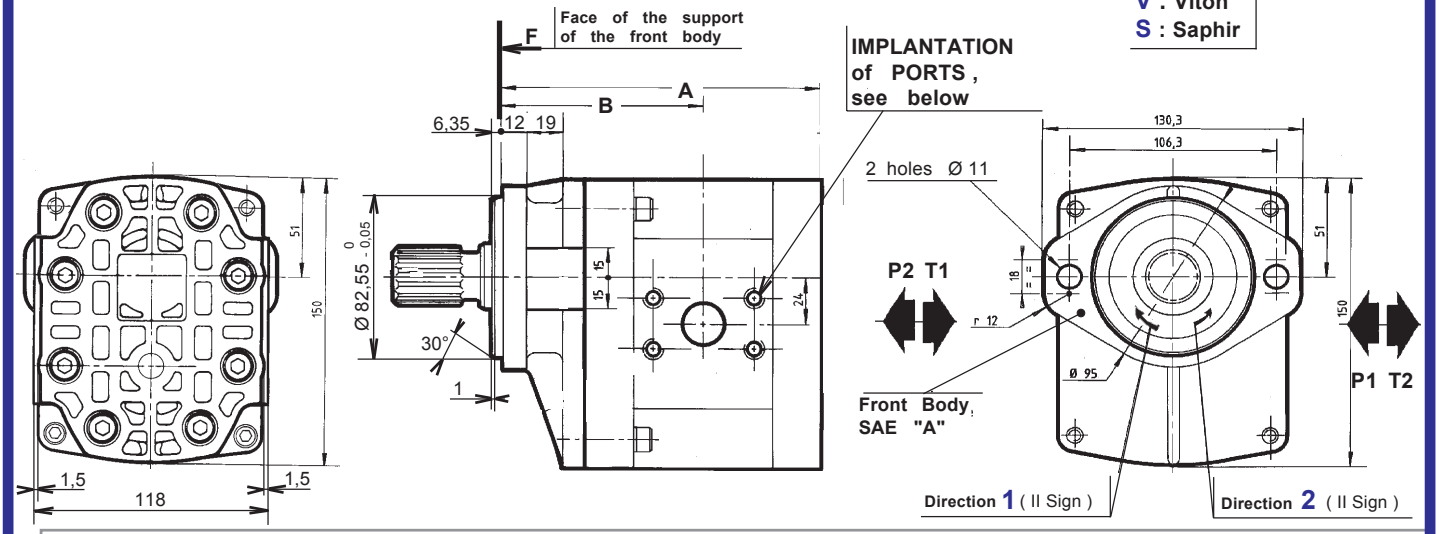
HYDRAULIC GEAR PUMPS SERIES **3** TYPE **ABR**

PUBLISHING 05 / 07 / 2000

P	II Sign	AB	P	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

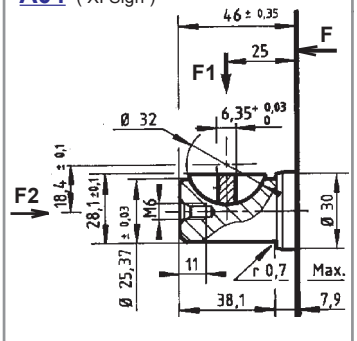
For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



CHOICE of the DRIVING SHAFTS

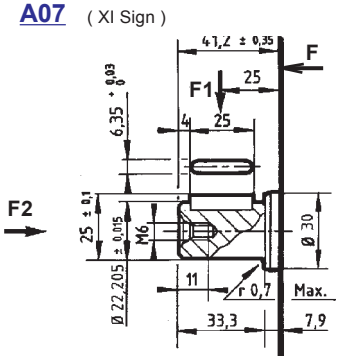
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

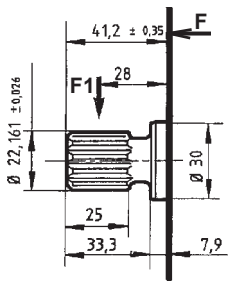
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

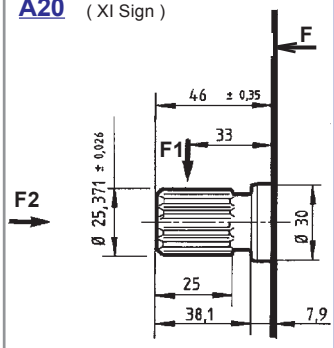


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

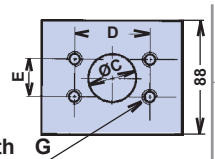
F1 Maxi : 120 daN
F2 Maxi : 50 daN

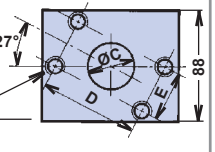
Max. transmissible torque
49 m.daN

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
27° Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							





Dimension readings and approximative characteristics subject to modifications .

F.T 30 444

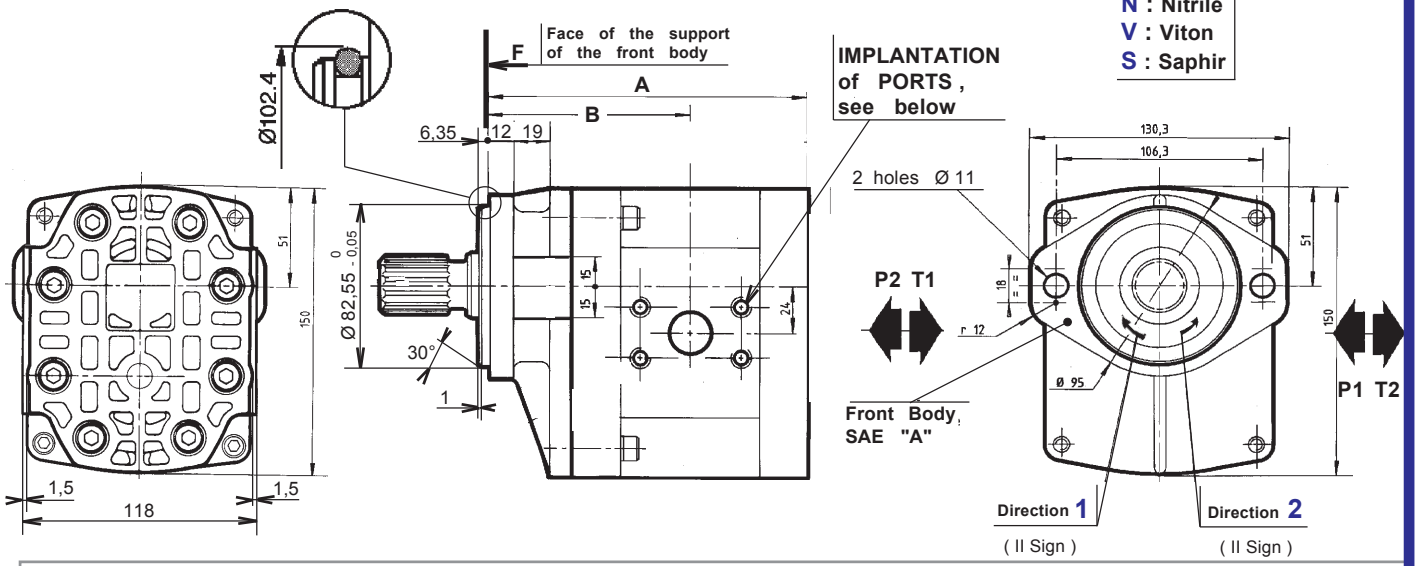
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ABP

PUBLISHING 05 / 07 / 2000

P	II Sign	AB	R	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

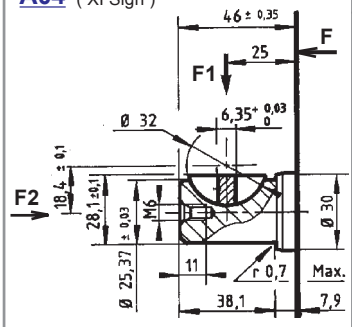
For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



CHOICE of the DRIVING SHAFTS

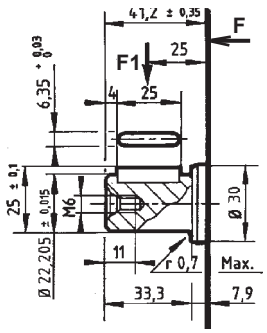
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

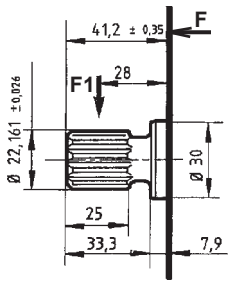
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

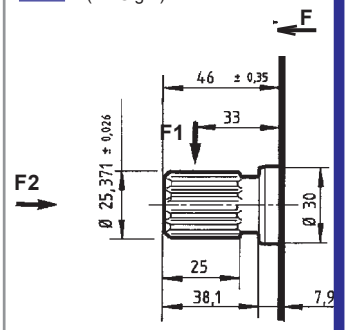


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

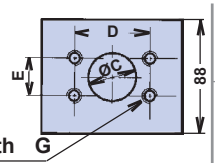
Max. transmissible torque
49 m.daN

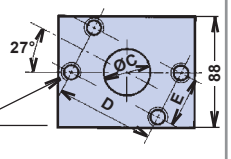
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

Dimension readings and approximative characteristics subject to modifications .

F.T 30 459

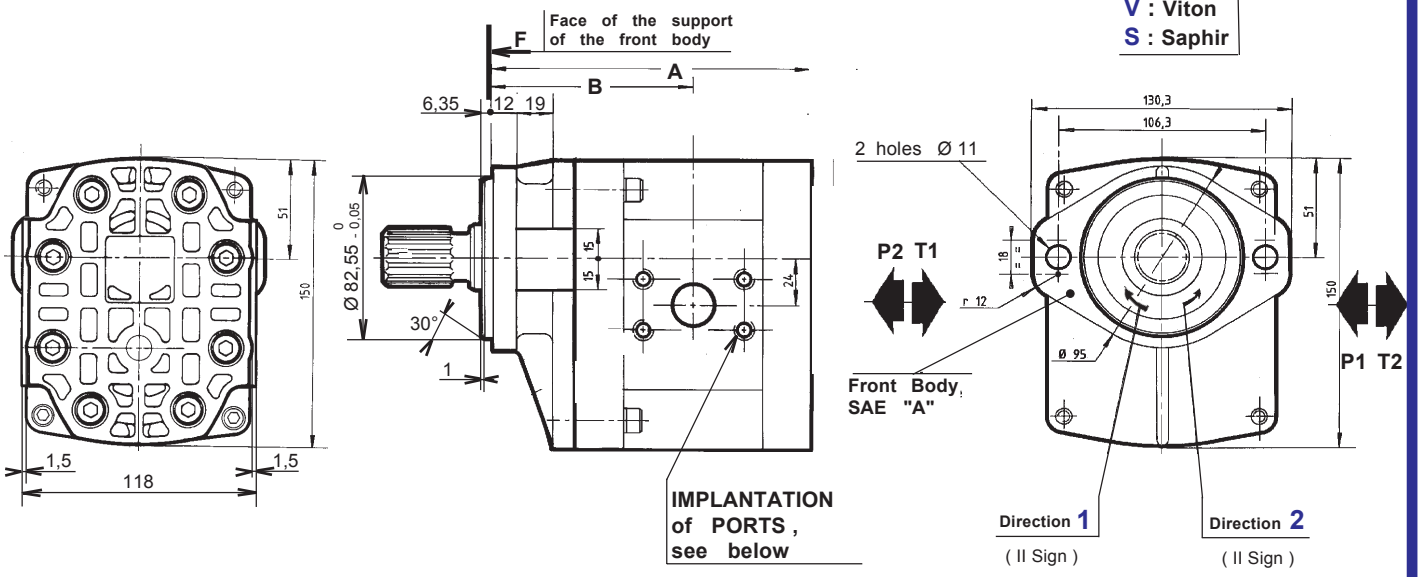
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ABR

PUBLISHING 05 / 07 / 2000

P	II Sign	AB	X	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

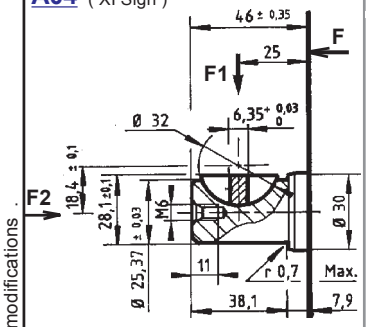
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

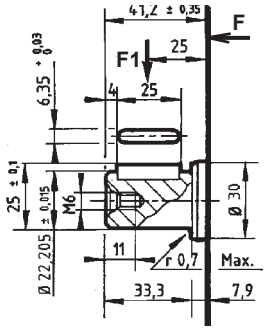
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

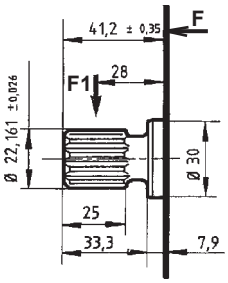
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

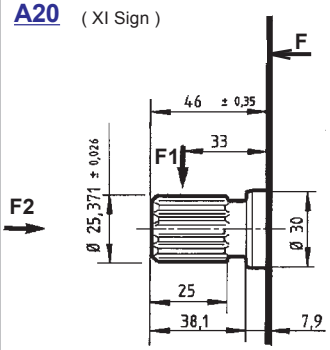


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

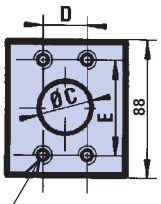
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

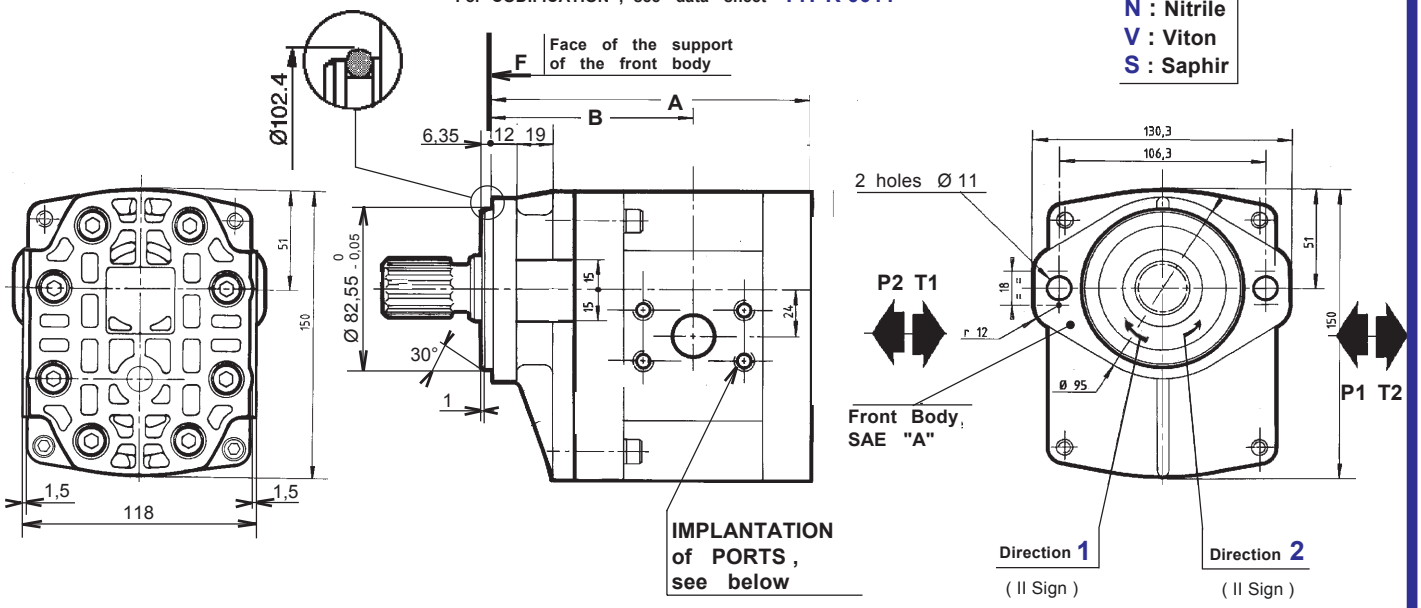
	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 460

P	II Sign	AB	Z	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

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

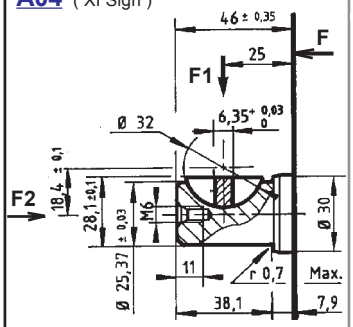
N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

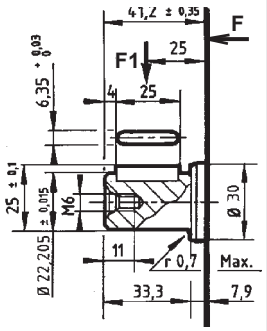
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

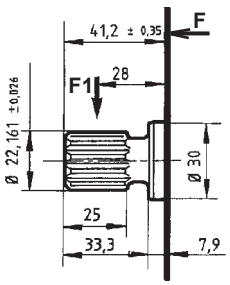
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

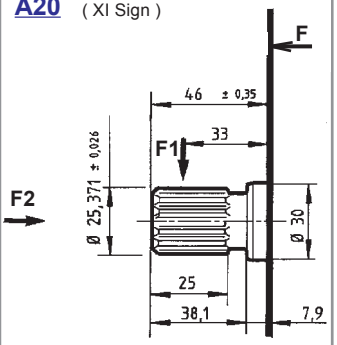


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

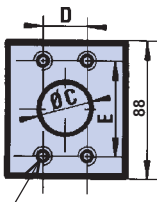
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 462

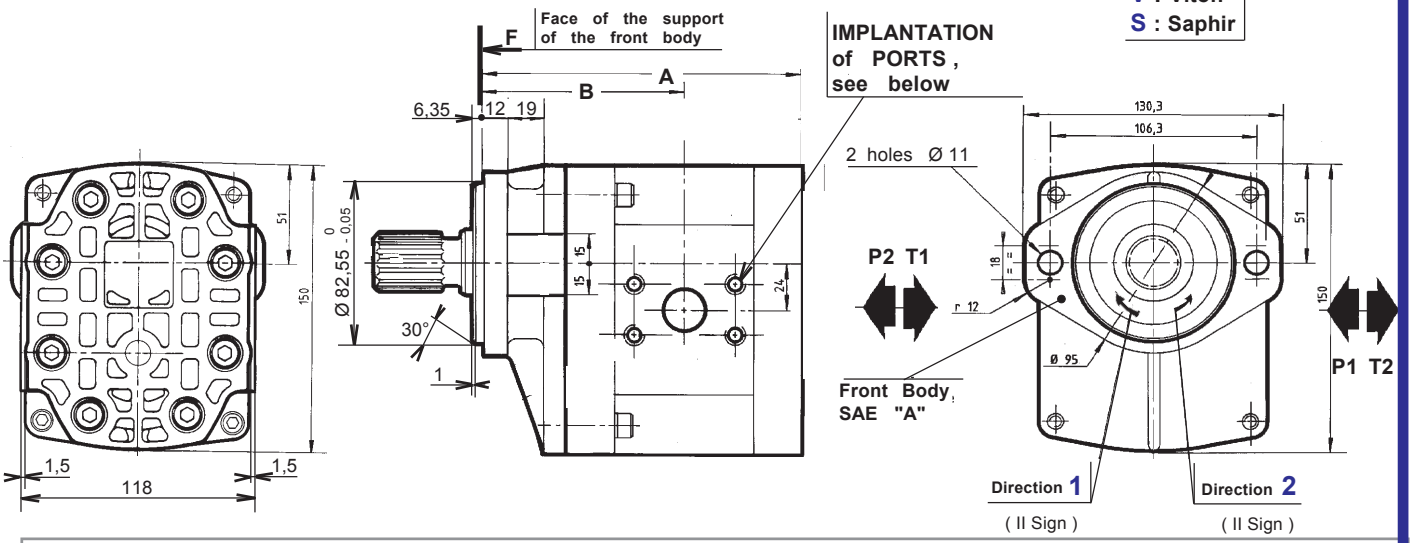
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ABZ

PUBLISHING 06 / 02 / 2002

P	II Sign	AB	X	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

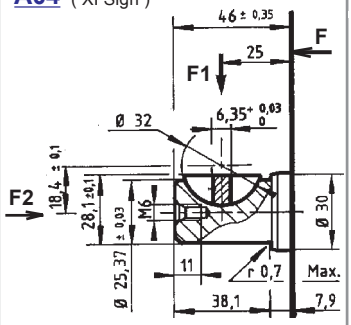
For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



CHOICE of the DRIVING SHAFTS

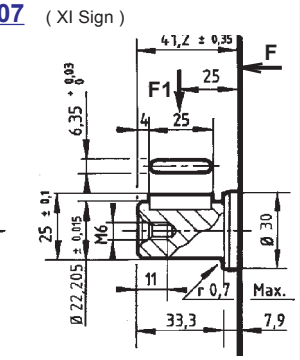
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

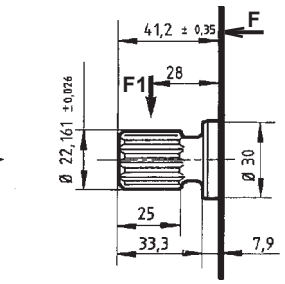
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

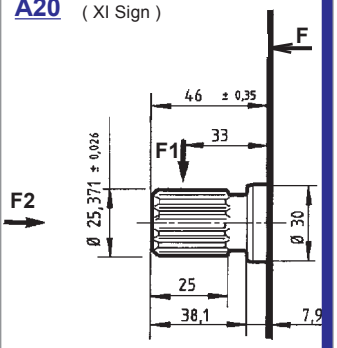


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

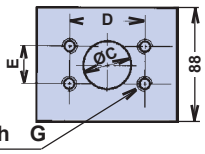
Max. transmissible torque
49 m.daN

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

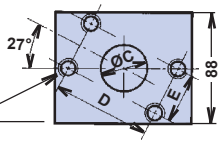
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)

Y (ISO 6162)



Ø F
effective depth G



Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

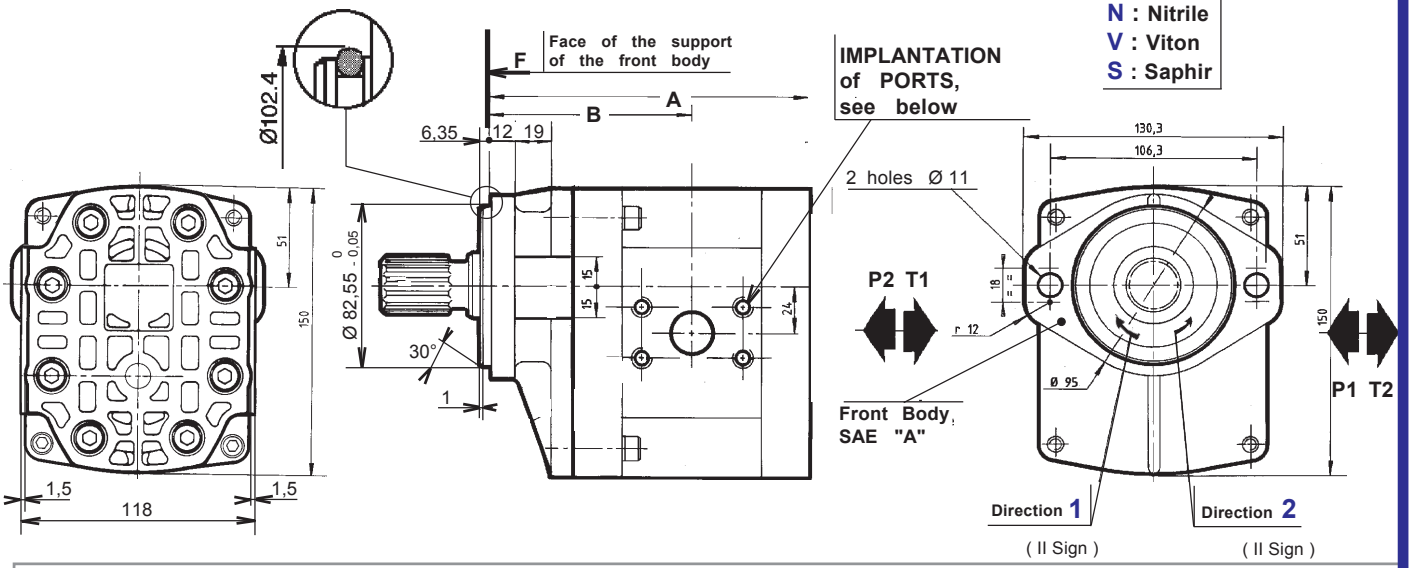
F.T 30 461

Dimension readings and approximative characteristics subject to modifications .

P	II Sign	AB	Z	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

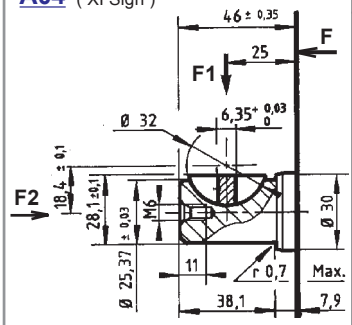
For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



CHOICE of the DRIVING SHAFTS

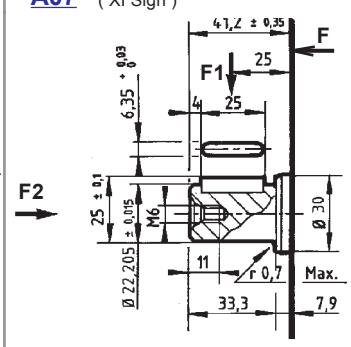
20 (IX - X Sign) **A04** (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

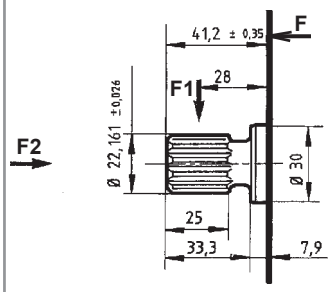
20 (IX - X Sign) **A07** (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign) **A19** (XI Sign)

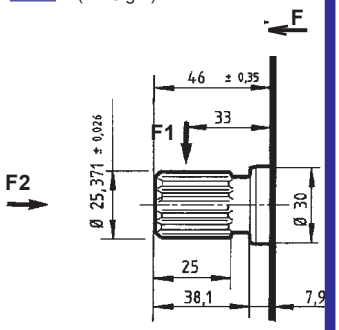


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign) **A20** (XI Sign)



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

F1 Maxi : 0 daN
F2 Maxi : 50 daN

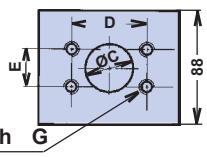
Max. transmissible torque
49 m.daN

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

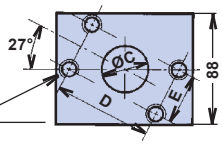
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)

Y (ISO 6162)



Ø F
effective depth G



Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17
050 - 060						34	52,4	26,2	M10	17
050 - 060	42	69,8	35,6	M14	17					

CATALOGUE N° 70
Ref. RECOMMANDED FLANGES (for speed 1500 rev / min)

INLET (T)	OUTLET (P)

Dimension readings and approximative characteristics subject to modifications .

F.T 30 464

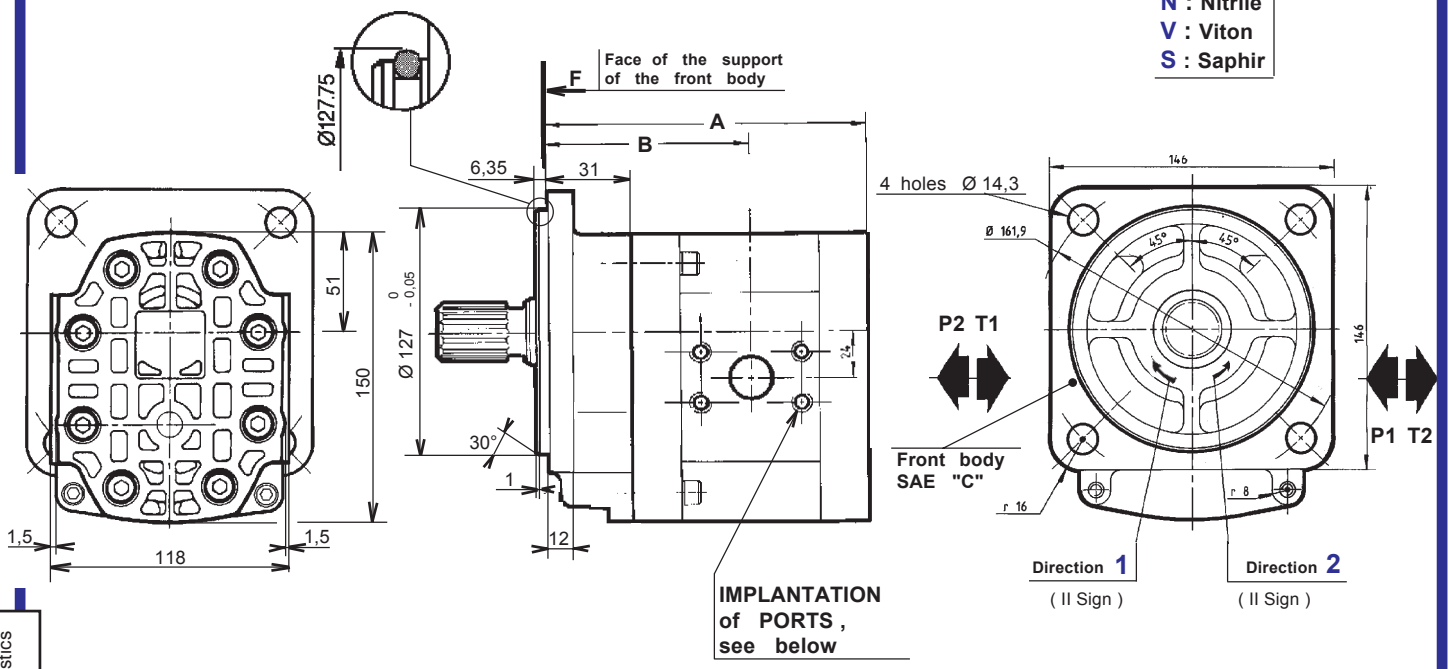
HYDRAULIC GEAR PUMPS SERIES **3** TYPE **ABZ**

PUBLISHING 06 / 02 / 2002

P	II Sign	AD	R	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir

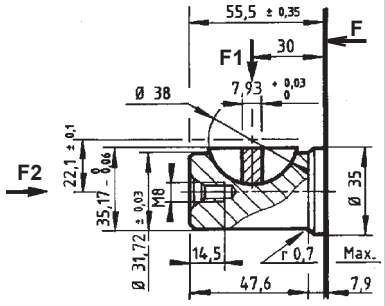


Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	165,7	104,3
050 060	192,2	117,5
071 080 090 100	212,2	127,2

CHOICE of the DRIVING SHAFT

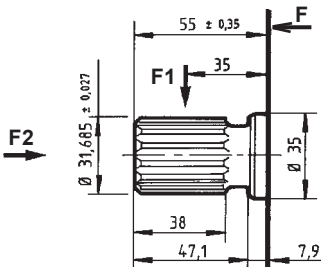
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

30 (IX - X Sign)
A04 (XI Sign)



Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12 / 24
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
50 m.daN

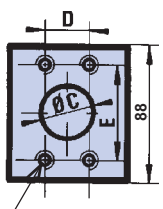
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

H

(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 467

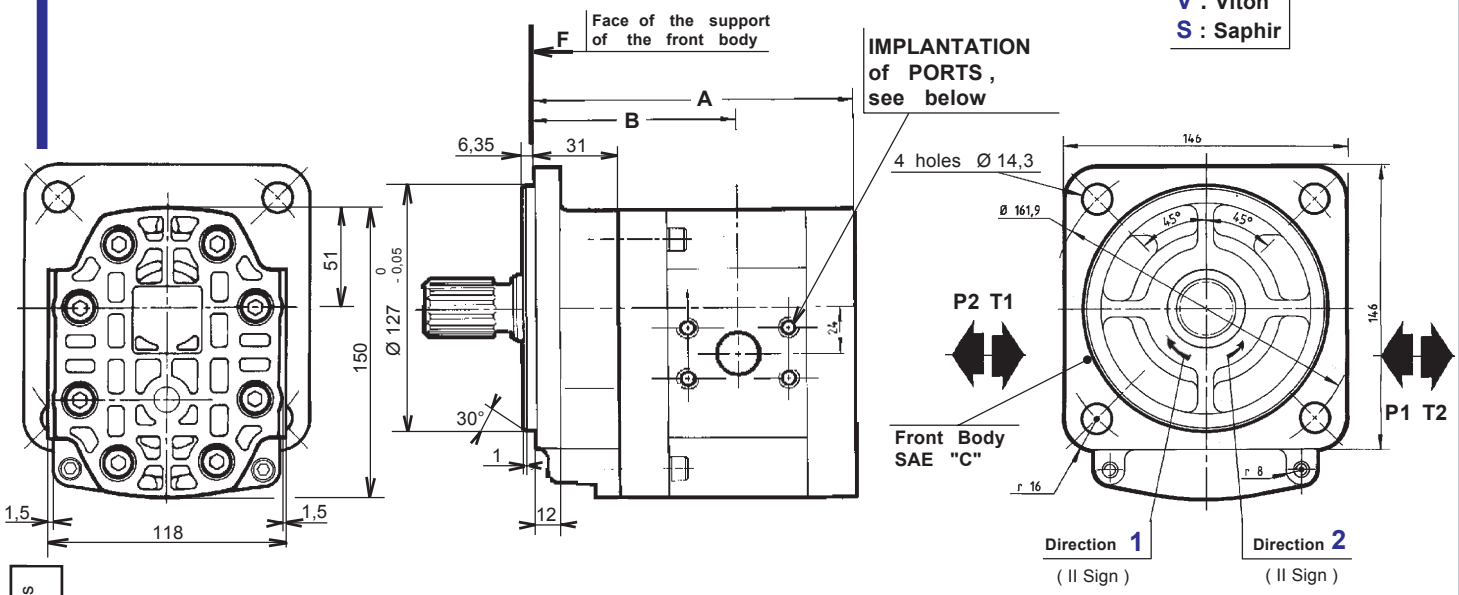
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ADR

PUBLISHING 05 / 07 / 2000

P	II Sign	AD	P	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5

CHOICE of the DRIVING SHAFTS , see F.T 30 465 2/2 Page 219

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

Following Page

F.T 30 465 1/2

HYDRAULIC GEAR PUMPS SERIES 3 TYPE ADP

PUBLISHING 05 / 07 / 2000

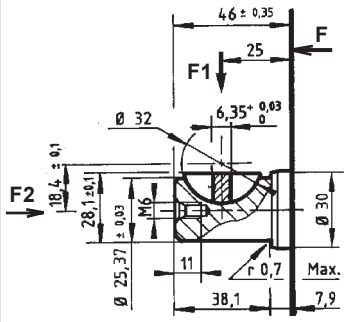
P	II Sign	AD	P	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir

CHOICE of DRIVING SHAFTS

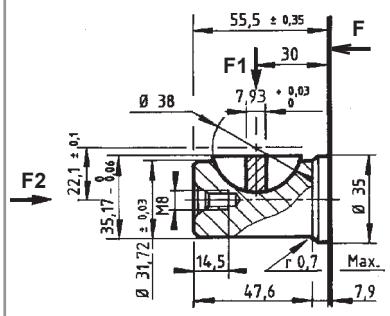
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

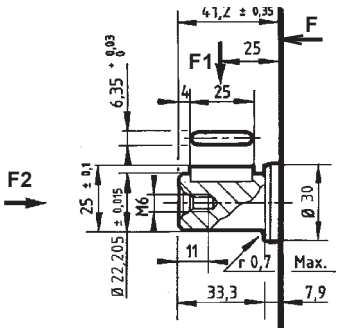
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

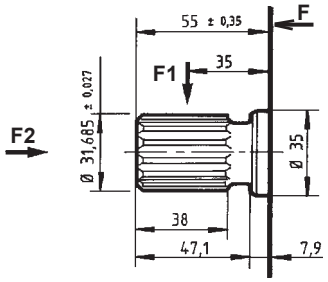
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A04 (XI Sign)

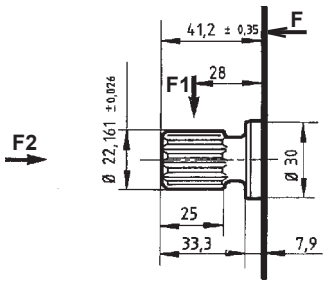


Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12/24
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
50 m.daN

30 (IX - X Sign)
A19 (XI Sign)

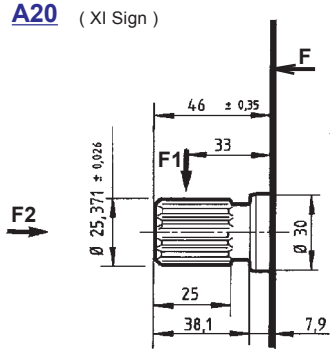


Involute spline to SAE 7/8" SAE
Standard - 13 theet
Pitch 16/32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

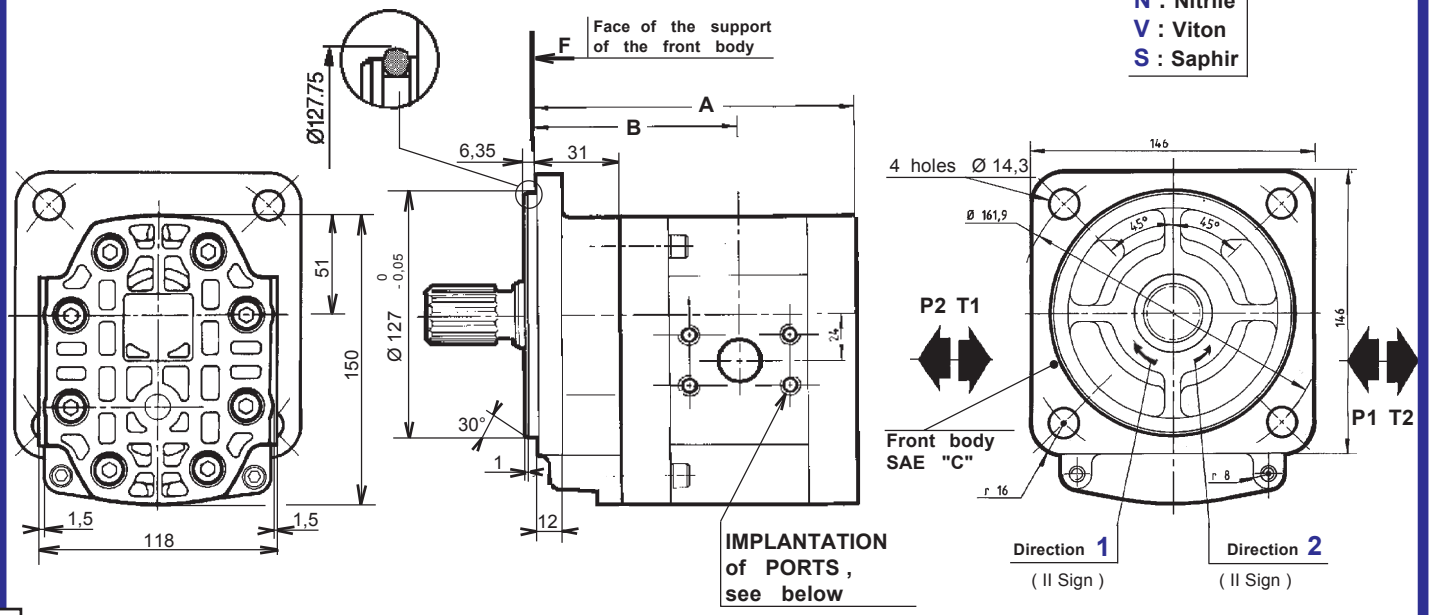
Max. transmissible torque
49 m.daN

Dimension readings and approximative characteristics subject to modifications .

P | II Sign | AD | R | 3 | VI Sign | Y | L | IX Sign | X Sign | XI Sign | XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir

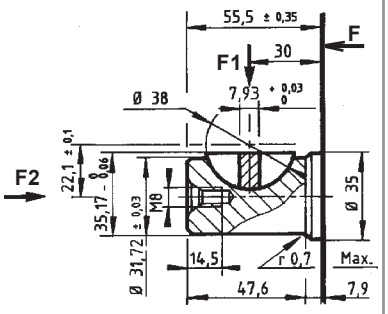


Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	165,7	104,3
050 060	192,2	117,5
071 080 090 100	212,2	127,2

CHOICE of the DRIVING SHAFT

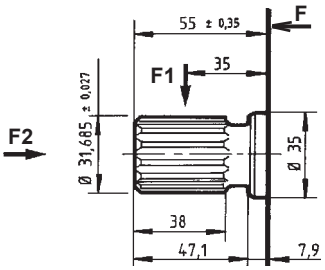
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

30 (IX - X Sign)
A04 (XI Sign)



Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12 / 24
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

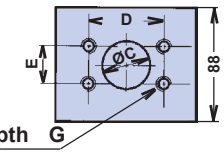
Max. transmissible torque
50 m.daN

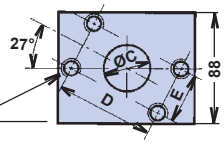
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

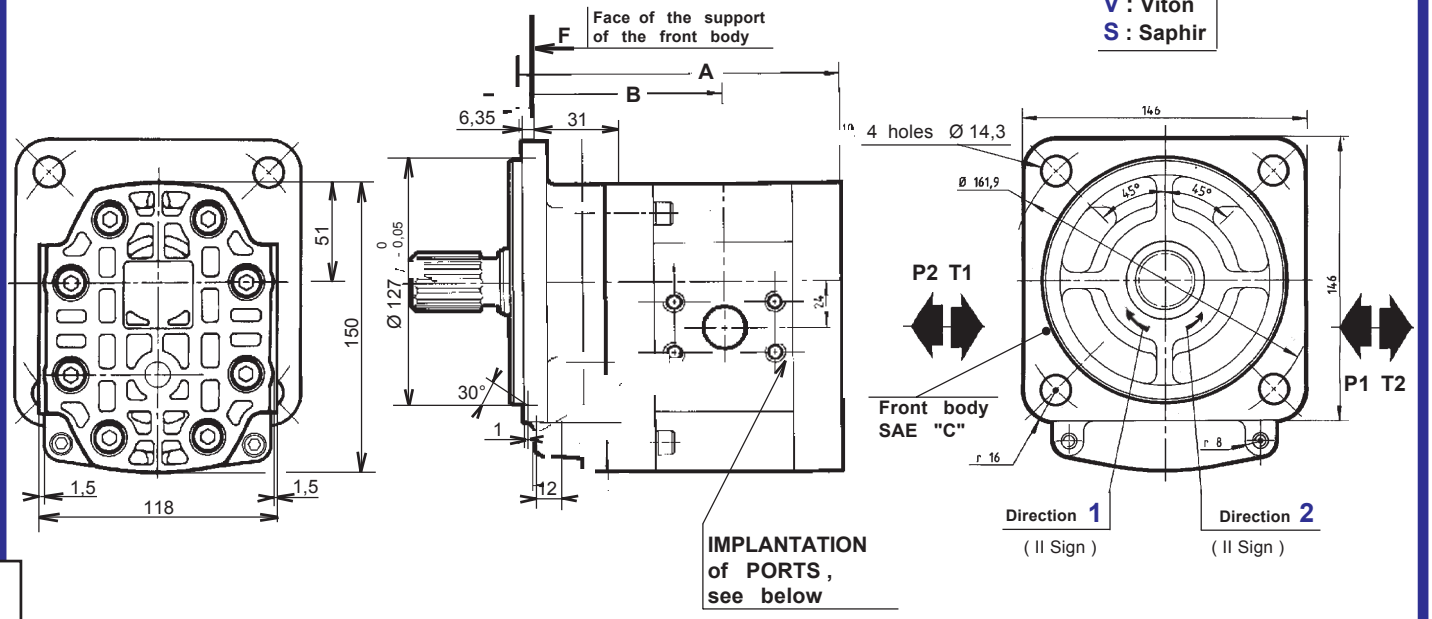
Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 468

P	II Sign	AD	X	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

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

N : Nitrile
V : Viton
S : Saphir



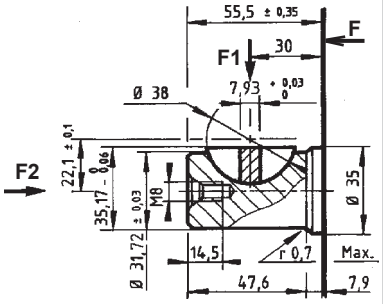
Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	165,7	104,3
050 060	192,2	117,5
071 080 090 100	212,2	127,2

Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

CHOICE of the DRIVING SHAFT

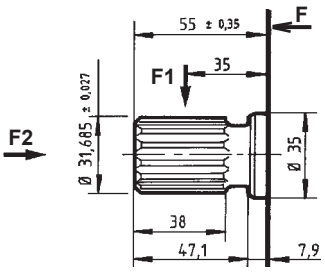
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

30 (IX - X Sign)
A04 (XI Sign)



Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12 / 24
30° Pressure angle

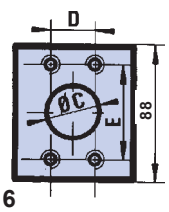
F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
50 m.daN

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE **N° 70**
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 481

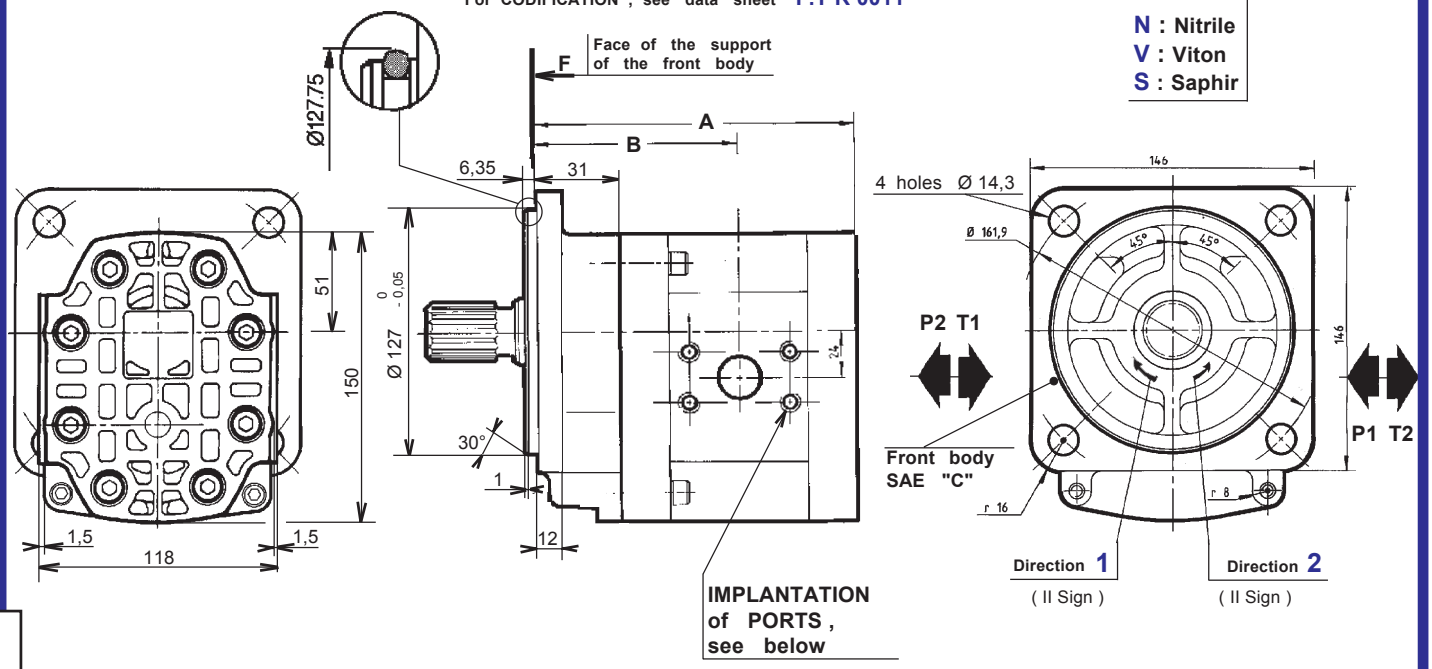
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ADX

PUBLISHING 06 / 02 / 2002

P	II Sign	AD	Z	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

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

N : Nitrile
V : Viton
S : Saphir

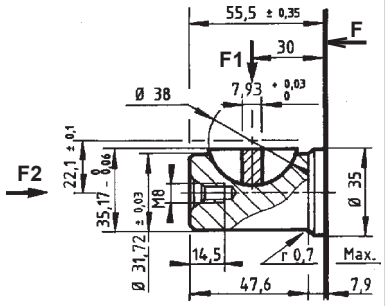


Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	165,7	104,3
050 060	192,2	117,5
071 080 090 100	212,2	127,2

CHOICE of the DRIVING SHAFT

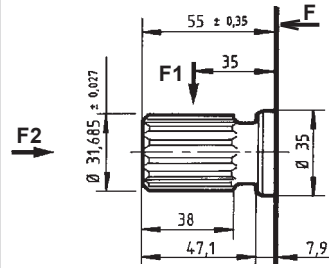
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

30 (IX - X Sign)
A04 (XI Sign)



Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12 / 24
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
50 m.daN

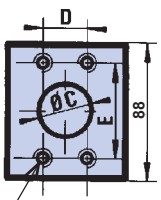
Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

IMPLANTATION of PORTS

(VII Sign)

H

(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE **N° 70**
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 489

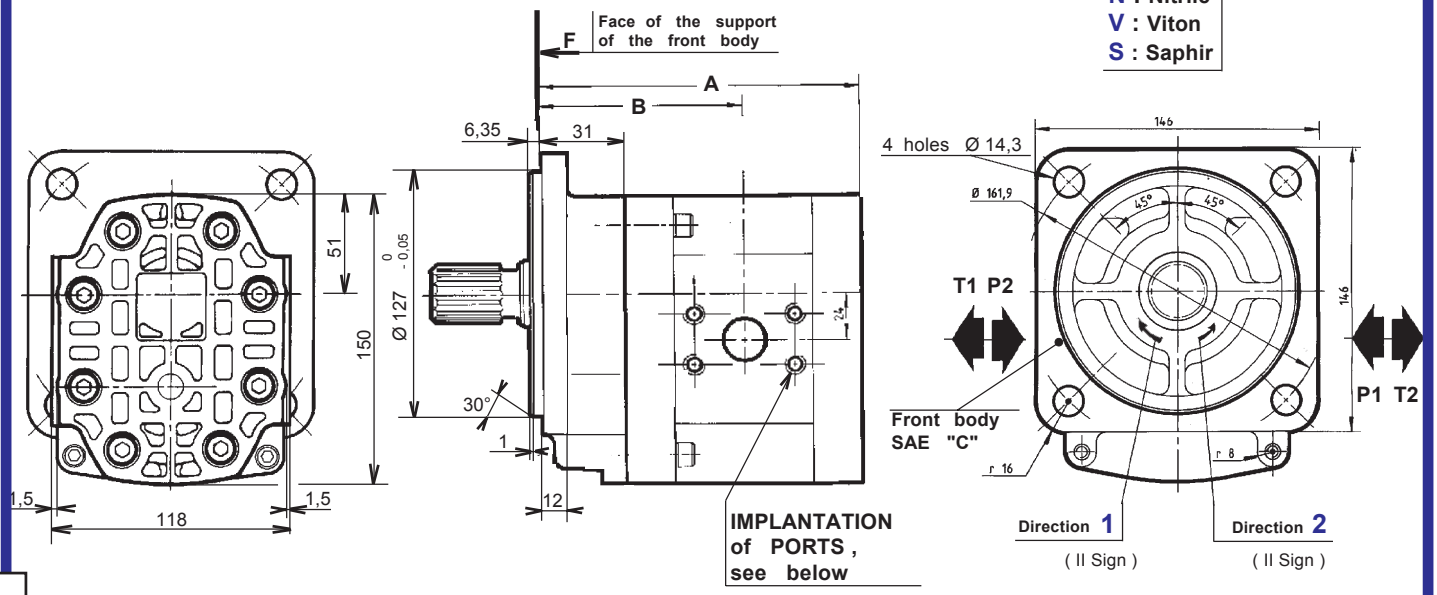
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ADZ

PUBLISHING 06 / 02 / 2002

P	II Sign	AD	X	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

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

N : Nitrile
V : Viton
S : Saphir

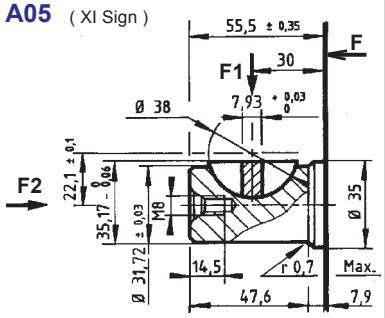


Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	165,7	104,3
050 060	192,2	117,5

CHOICE of the DRIVING SHAFT

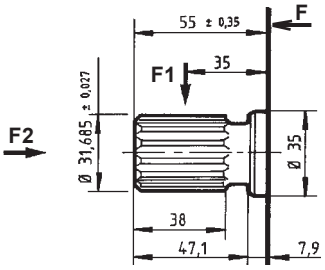
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

30 (IX - X Sign)
A04 (XI Sign)



Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12 / 24
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
50 m.daN

Multiple geared pumps , see data sheet **F.T 30 900**
Rear bodies , see data sheet **F.T R 0192**

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

F.T 30 486

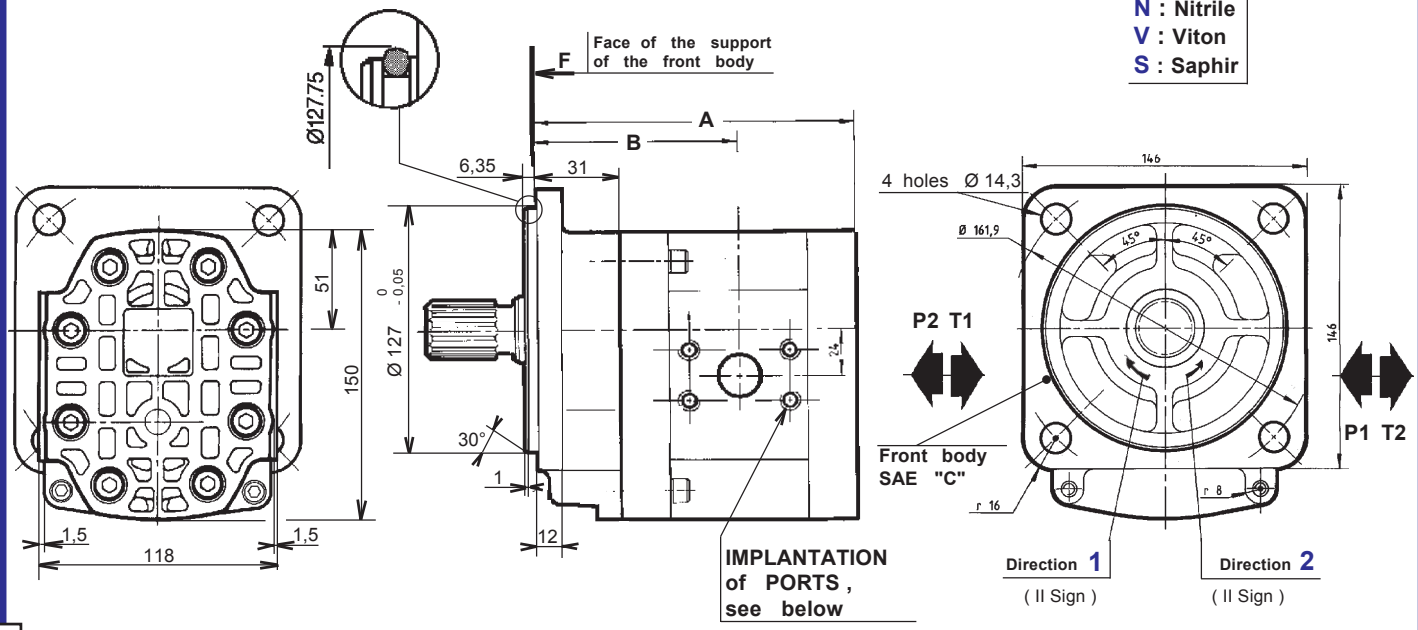
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ADX

PUBLISHING 06 / 02 / 2002

P	II Sign	AD	Z	3	VI Sign	Y	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir

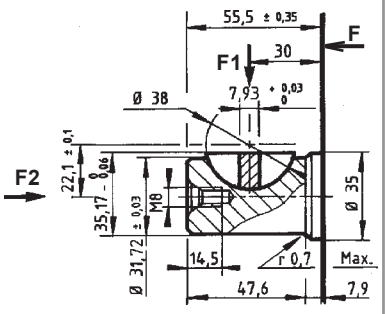


Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	165,7	104,3
050 060	192,2	117,5
071 080 090 100	212,2	127,2

CHOICE of the DRIVING SHAFT

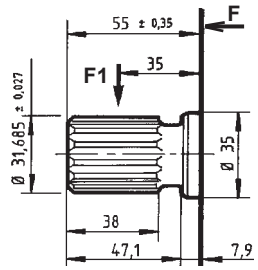
20 (IX - X Sign)
A05 (XI Sign)



F1 Maxi : 0 daN
F2 Maxi : 50 daN

Max. transmissible torque
43 m.daN

30 (IX - X Sign)
A04 (XI Sign)



Involute spline to SAE 1" 1/4
Standard - 14 theet
Pitch 12 / 24
30° Pressure angle

F1 Maxi : 0 daN
F2 Maxi : 50 daN

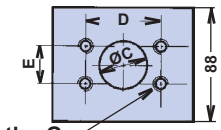
Max. transmissible torque
50 m.daN

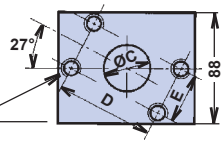
Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

Y
(ISO 6162)
Ø F
effective depth G





Ø F
effective depth G

Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
050 - 060						34	52,4	26,2	M10	17		
050 - 060	42	69,8	35,6	M14	17							

F.T 30 503

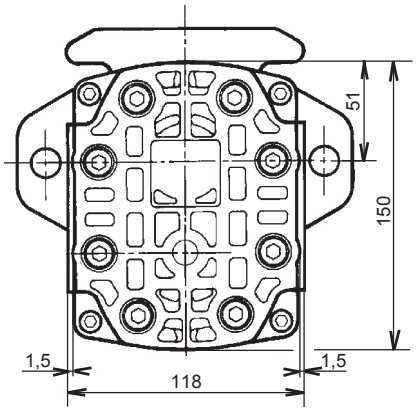
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ADZ

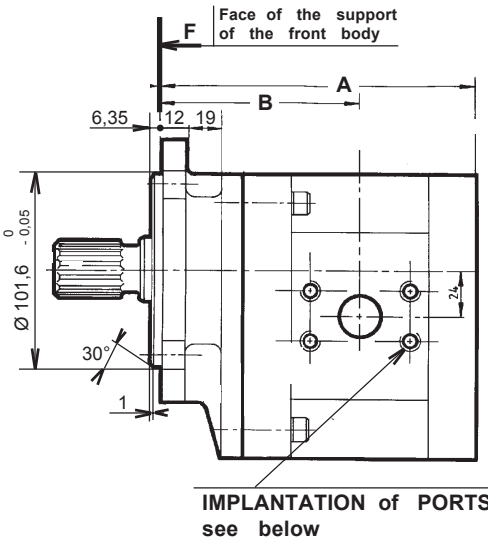
PUBLISHING 06 / 02 / 2002

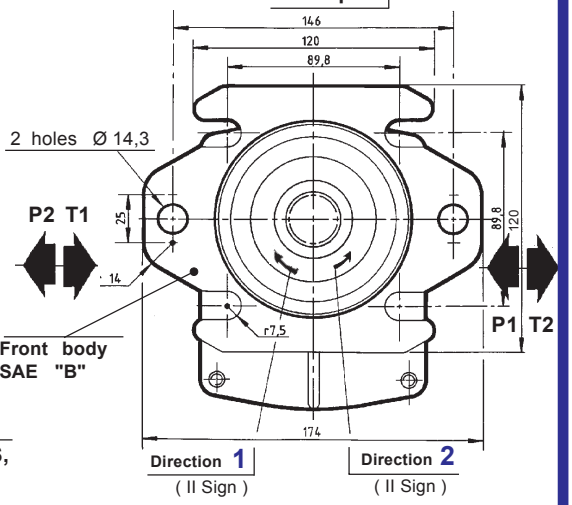
P	II Sign	AE	P	3	VI Sign	H	L	IX Sign	X Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir



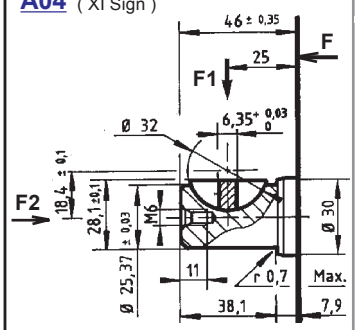




Dimension readings and approximative characteristics subject to modifications .

CHOICE of the DRIVING SHAFTS

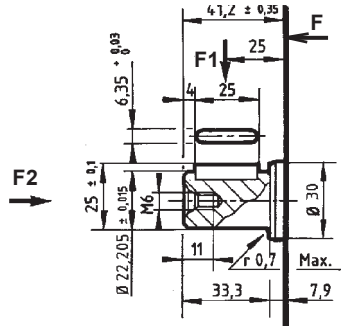
20 (IX - X Sign)
A04 (XI Sign)



F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
34 m.daN

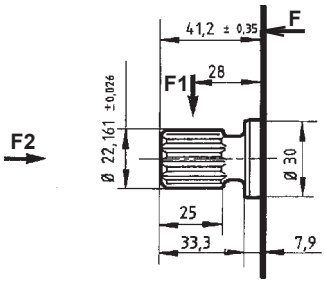
20 (IX - X Sign)
A07 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Max. transmissible torque
29 m.daN

30 (IX - X Sign)
A19 (XI Sign)

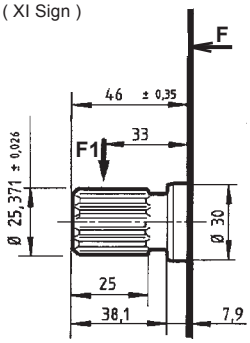


involute spline to SAE 7/8"
Standard - 13 theet
Pitch 16 / 32
30° Pressure angle

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
31 m.daN

30 (IX - X Sign)
A20 (XI Sign)



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

F1 Maxi : 120 daN
F2 Maxi : 50 daN

Max. transmissible torque
49 m.daN

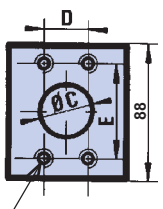
CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 - 025 - 031 - 040	165,7	104,3
050 - 060	192,2	117,5
071 - 080 - 090 - 100	212,2	127,2

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

F.T 30 504

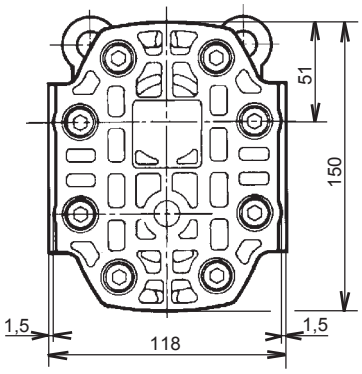
HYDRAULIC GEAR PUMPS SERIES 3 TYPE AEP

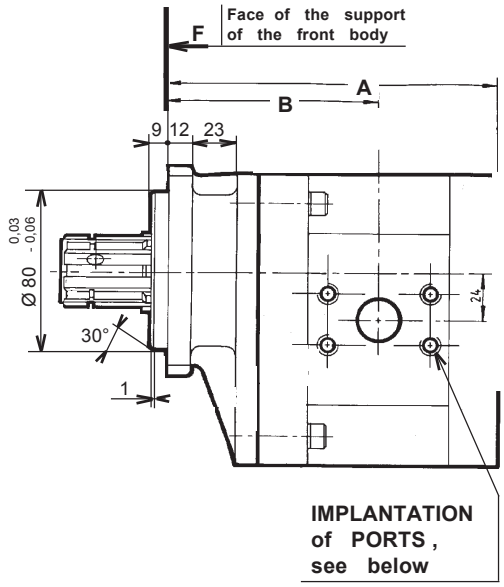
PUBLISHING 25 / 10 / 2001

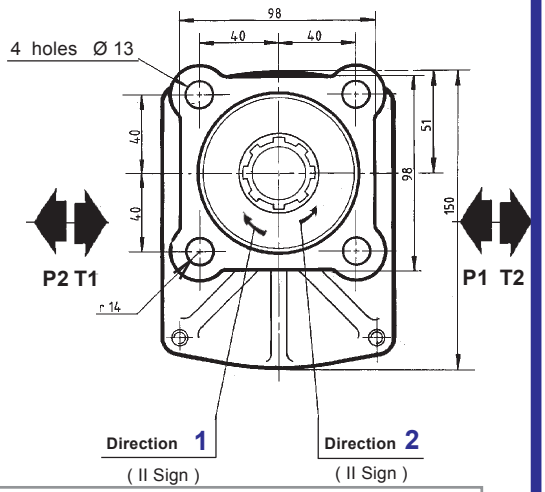
P	II Sign	ZF	C	3	VI Sign	Y	L	3	0	D04	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton
S : Saphir





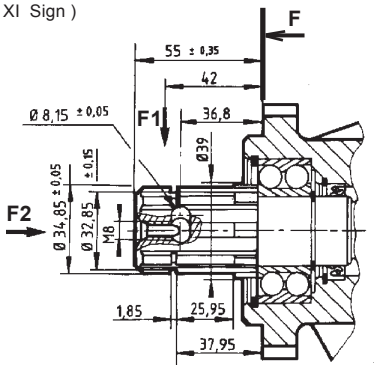


Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
020 025 031 040	169,7	108,3
050 060	196,2	121,5

DRIVING SHAFT

30 (IX - X Sign)
D04 (XI Sign)



F1 Maxi : 140 daN
F2 Maxi : 50 daN

Parallel spline side
8 x 32 x 36 to Norm NF E 22 131
Pushing Minor diameter

Max. transmissible torque
48 m.daN

Multiple geared pumps , see data sheet F.T 30 900
Rear bodies , see data sheet F.T R 0192

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	D	E	ØF	G	OUTLET (T) ØC	D	E	ØF	G	CATALOGUE N° 70 Ref. RECOMMANDED FLANGES (for speed 1500 rev / min) INLET (T)	OUTLET (P)
Y (ISO 6162) Ø F effective depth G	020 to 040	28	52,4	26,2	M10	17	18	52,4	26,2	M10	17		
	050 - 060						34	52,4	26,2	M10	17		
Ø F effective depth G	050 - 060	42	69,8	35,6	M14	17							

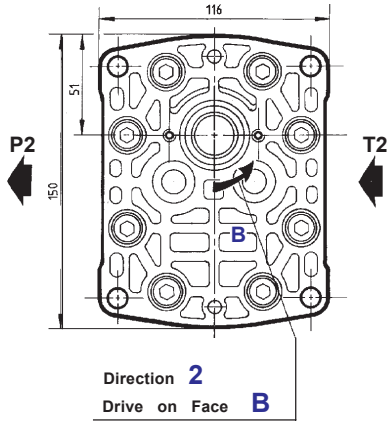
F.T 30 431

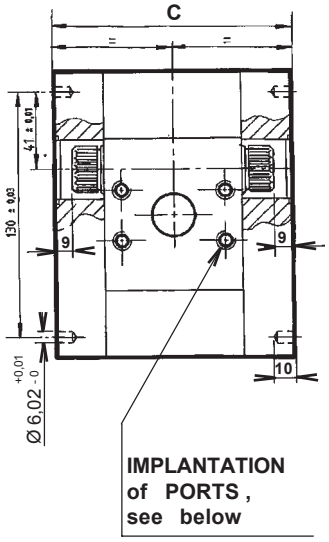
HYDRAULIC GEAR PUMPS SERIES 3 TYPE ZFC

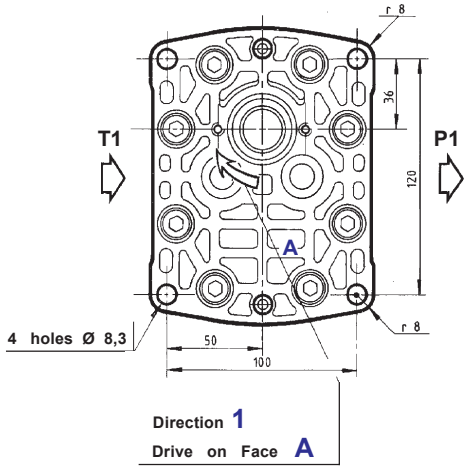
PUBLISHING 05 / 07 / 2000

P 4 CJN 3 VI Sign H J 33 C14 N

For CODIFICATION , see data shet **F.T R 0146**



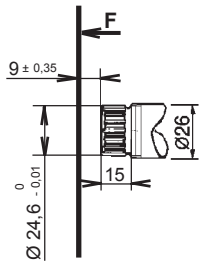




CHOICE of the CAPACITY (VI Sign)	Dimensions C
020 025 031 040	122,7
050 060	149,2
071 080 090 100	169,2

DRIVING SHAFT

33 (IX - X Sign)
C14 (XI Sign)



Involute spline shaft
25 x 13 x 1,667
to norm NF E 22 141 - BNA 455
Spigot on free flanks

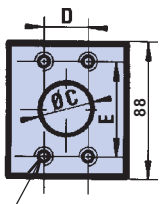
Max. transmissible torque
48 m.daN

Dimension readings and approximative characteristics subject to modifications .

IMPLANTATION of PORTS

(VII Sign)

H
(HPI)



M8
effective depth 16

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
020 to 040	28	52,4	26,2	18	52,4	26,2
050 - 060	42	35,6	69,8	22	52,4	26,2
071 to 100	42	35,6	69,8	24	52,4	26,2

CATALOGUE N° 70
Ref. RECOMMENDED FLANGES
(for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
3020 3025	1" BSP N: 3.500072 - V: 3.505060	1/2" BSP N: 3.500070 - V: 3.505058
3031 3040	1" 1/4 BSP N: 3.500103 - V: 3.505061	3/4" BSP N: 3.500071 - V: 3.505059
3050 3060	1" 1/4 BSP N: 3.500492 - V: 3.505066	1" BSP N: 3.500072 - V: 3.505060
3071 3080	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" BSP N: 3.500072 - V: 3.505060
3090 3100	1" 1/2 BSP N: 3.500493 - V: 3.505067	1" 1/4 BSP N: 3.500103 - V: 3.505061

HYDRAULIC GEAR PUMPS MODUL 3 BASE SERIES 3

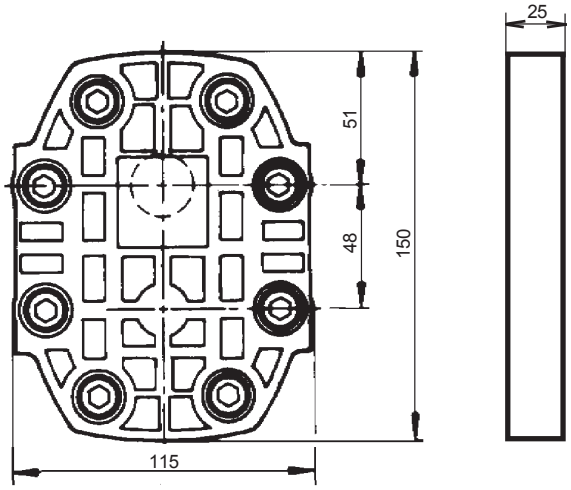
F.T 30 141

P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	VIII Sign	IX Sign	IX Sign	XI Sign	XII Sign

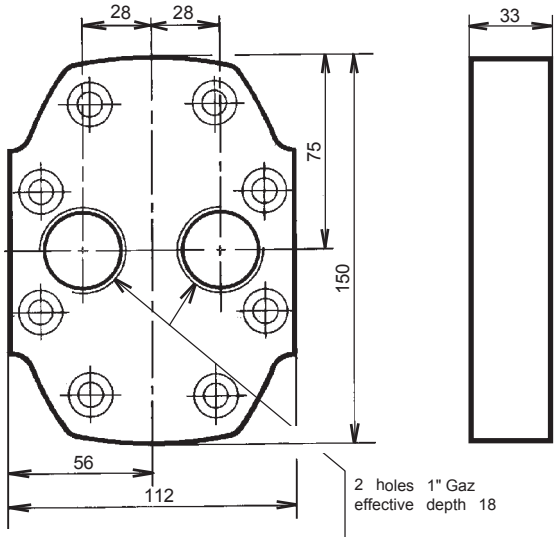
For CODIFICATION , see data sheet **F.T R 0011**

N : Nitrile
V : Viton
S : Saphir

L (VIII Sign) **Standard (no port)**



A (VIII Sign) **With ports**



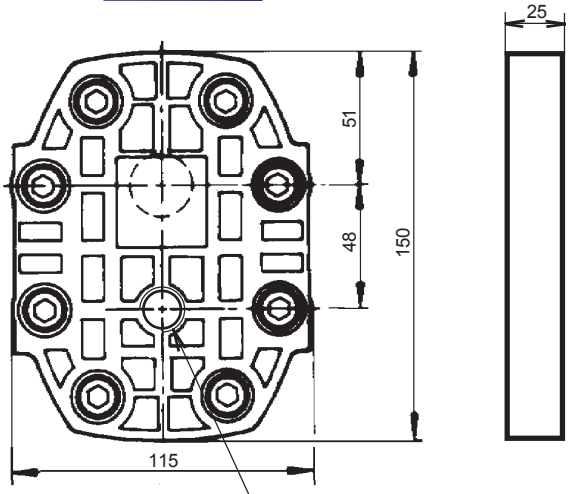
2 holes 1" Gaz
effective depth 18

Max. tightening torque of the connection :
6 $^{+0,5}_{0}$ **m.daN**

Maxi flow : **160 l / min**

L (VIII Sign) **Standard (no port)**

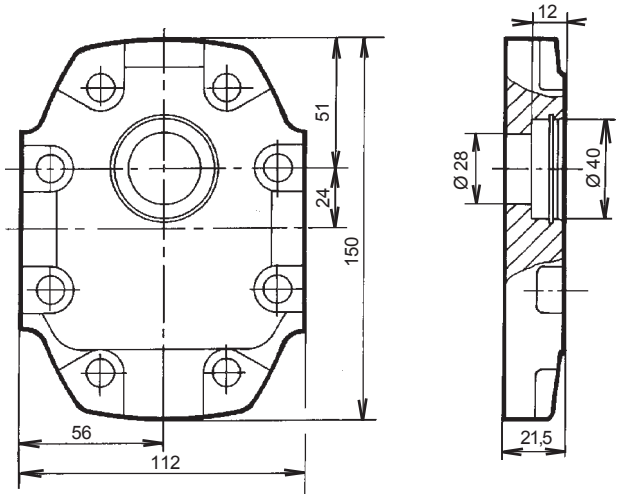
For singles pumps
P3 - P5 - P6



Drain port 3/8" BSP
effective depth 18

Max. tightening torque of the connexion :
5 $^{+0,5}_{0}$ **Kgm**

Z (VIII Sign) **Double shaft port**



Dimension readings and approximative characteristics subject to modifications .

F.T R 0192 1/3

HYDRAULIC GEAR PUMPS SERIES 3

REAR BODY

Following Page

PUBLISHING 04 / 12 / 2001

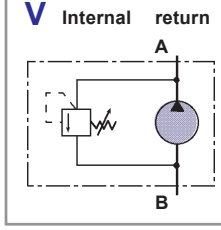
P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	V	IX Sign	IX Sign	XI Sign	XII Sign	006	V15

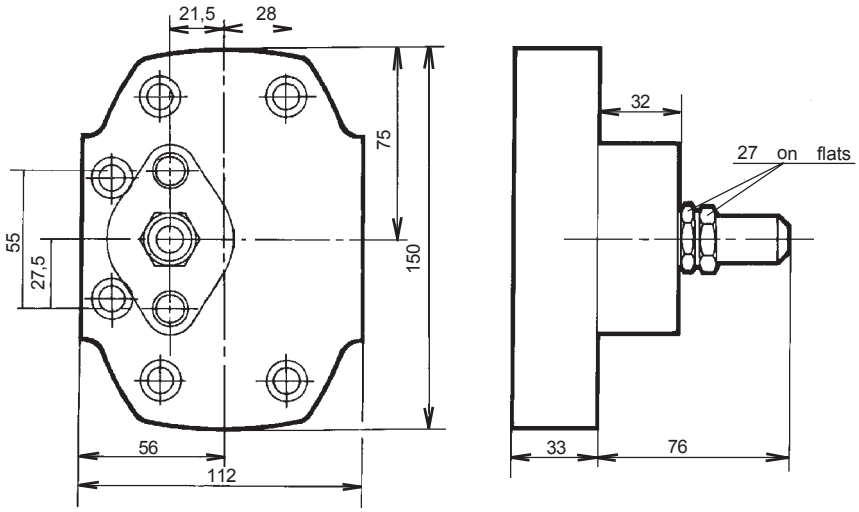
For CODIFICATION , see data sheet F.T R 0011

N : Nitril
V : Viton
S : Saphir

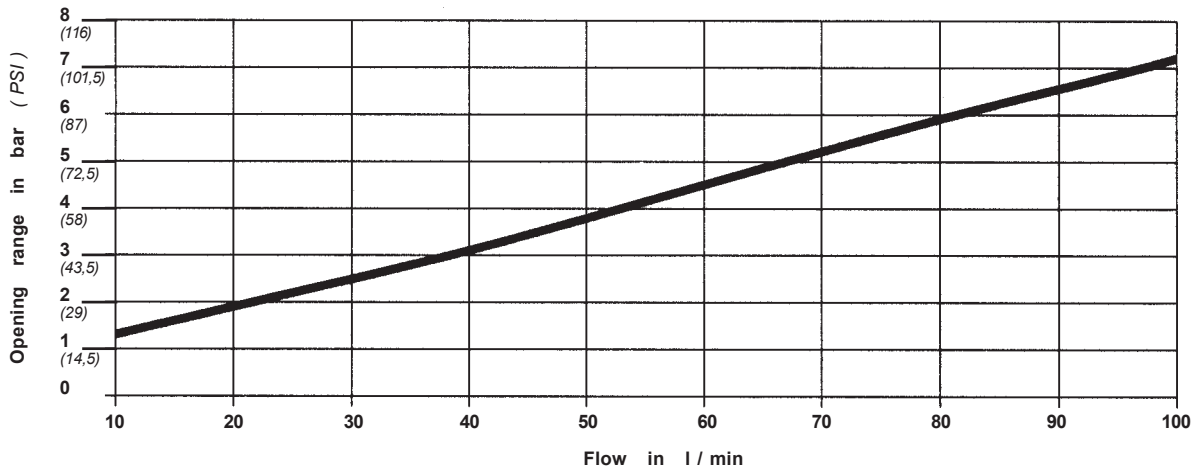
V (VIII Sign) **Low pressure relief valve (Adjustable) Internal return**

SYMBOL





OPENING RANGE



Curves made with the oil SHELL Tellus T46 (46 cSt) to 40° C

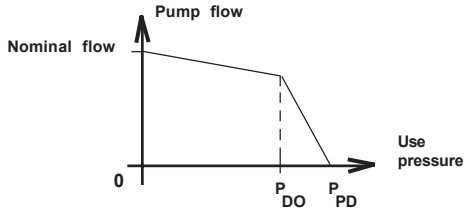
Pressure at opening begin mini : 5 bar (72,5 PSI)
Max. : 10 bar (145 PSI)

Setting tolerance : ± 1 bar *(14,5 PSI)*

Full flow setting

XIII Sign **006** Example : **Pressure of by-pass Full flow ± 1 bar** (14,5 PSI) **to 46 cSt 006 = 6 bar** (87 PSI)

XIV Sign **V15** Example : **V Speed 15 Speed / 100 ⇒ 1500 rev / min**



P_{DO} Pressure at opening begin (depending on setting)

P_{PD} Full flow pressure (depending on setting and flow)

Opening range = $P_{PD} - P_{DO}$

Dimension readings and approximative characteristics subject to modifications .

F.T R 0192 2/3

Preceding Page
Following Page

HYDRAULIC GEAR PUMPS SERIES
REAR BODY

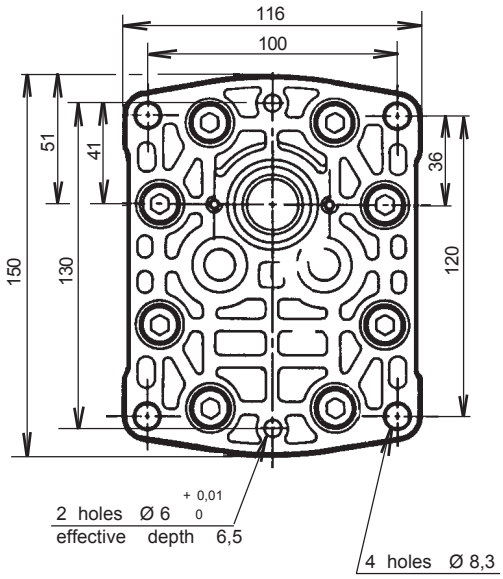
PUBLISHING 06 / 02 / 2002

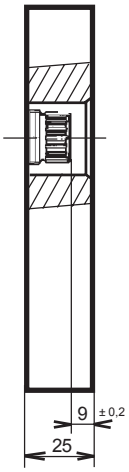
P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	J	IX Sign	IX Sign	XI Sign	XII Sign

For CODIFICATION , see data sheet F.T R 0011

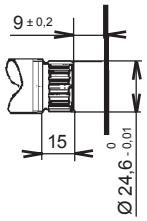
N : Nitrile
V : Viton
S : Saphir

J (VIII Sign) **Pre - arrangement with mounting " Module 3 "**





33 (IX - X Sign)
C15 (XI Sign)



Involute spiine shaft
25 x 13 x 1,667
to norm NF E 22 141 - BNA 455
Spigot on free flanks

Max. transmissible torque

48 **m.daN**

Dimension readings and approximative characteristics subject to modifications .

F.T R 0192 3/3

Preceding Page

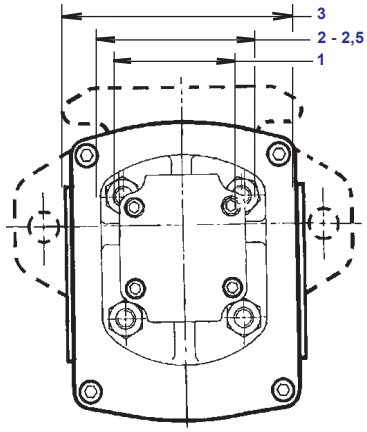
HYDRAULIC GEAR PUMPS SERIES 3

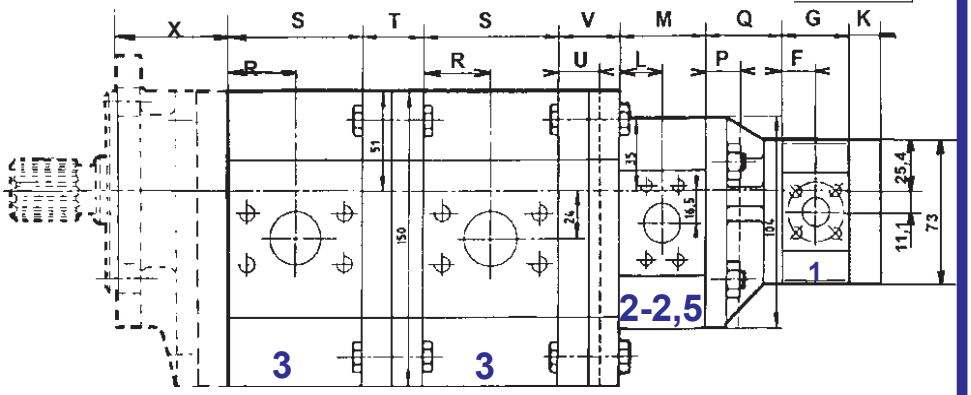
REAR BODY

P	II Sign	III Sign	IV Sign	3	VI Sign	IIV Sign	A	2	X Sign	XI Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

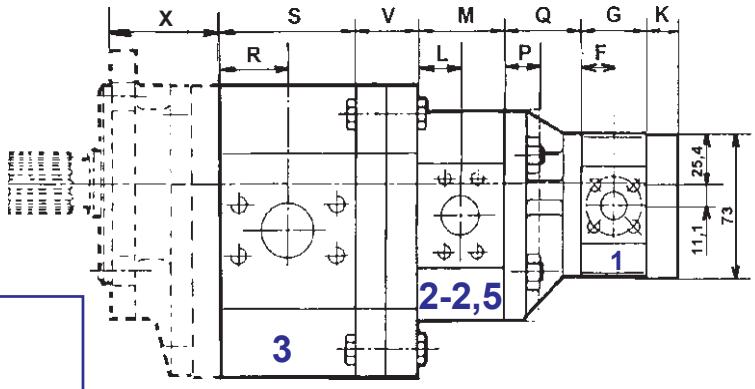
For CODIFICATION , see data sheet F.T R 0030

N : Nitrile
V : Viton
S : Saphir





Different mounting possibilities between multiple pumps , see data sheet F.T R 0029



ATTENTION

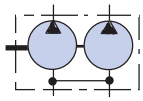
For common suctions .

The flow of the pump , or pump preceding or following the section including the suction must not exceed **160 l / min .**

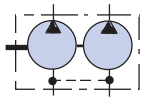
- **Hydraulic characteristics ,**
- **Driving shafts ,**
- **Supply ports implantation**
- **Dimensions of " Front body " : please refer to the technical data sheet of the here after mentioned single pumps .**

JUNCTIONS BODY

Code A (VIII Sign) — **Communication between suction ports** (Capacity of the pump without suction ≥ half of the capacity of the front body)



Code D (VIII Sign) — **Independant inlet side (communication of leaks)** (Oil and tank to be necessarily)



Dimensions **X** , see following page

NOTA : Version 3 / 1 only Code D
Version 3 / 3 only Codes A and D

SERIES (V - IX Sign)	Capacity (VI - X Sign)	R	S	T	U	V	Q	L	M	N	F	G	K
3	020 to 040	36,3	72,7	50	25	45							
	050 060	49,5	99,2										
	071 to 100	59,2	119,2										
2,5	12						42	31	61,6	24			
	15 to 22							38,8	77,7				
2	004 to 012						42	23,5	47,0	24			
	015 to 022							31	61,6				
	026 030							38,8	77,7				
1	001 to 003										17,9	35,8	18
	004 to 006										22,7	45,6	

MULTIPLE GEARED PUMPS

SERIES **3** (THICK FRONT BODY)

Following Page

PUBLISHING 05 / 07 / 2000

P	II Sign	III Sign	IV Sign	3	VI Sign	VII Sign	A	2	X Sign	VIII Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

For CODIFICATION , see data sheet F.T R 0030

N : Nitrile
V : Viton
S : Saphir

Types Front body (III - IV Sign)	Dimensions X	References Data sheets
AAP - AEP (Y)	68	F.T 30 432
AAR - AER (H)	68	F.T 30 433
AAR - AER (Y)	68	F.T 30 434
AAX - AEX (H)	68	F.T 30435
AAX - AEX (Y)	68	F.T 30 439
AAZ - AEZ (H)	68	F.T 30 440
AAZ - AEZ (Y)	68	F.T 30 442
ABP (H)	68	F.T 30 443
ABP (Y)	68	F.T 30 444
ABR (H)	68	F.T 30 458
ABR (Y)	68	F.T 30 459
ABX (H)	68	F.T 30 460
ABX (Y)	68	F.T 30 461
ABZ (H)	68	F.T 30 462
ABZ (Y)	68	F.T 30 464

Types Front body (III - IV Sign)	Dimensions X	References Data sheets
ADP (Y)	68	F.T 30 465
ADR (H)	68	F.T 30 467
ADR (Y)	68	F.T 30 468
ADX (H)	68	F.T 30 481
ADX (Y)	68	F.T 30 486
ADZ (H)	68	F.T 30 489
ADZ (Y)	68	F.T 30 503
AEP (H)	68	F.T 30 504
ZFC (Y)	72	F.T 30 431

Dimension readings and approximative characteristics subject to modifications .

CALCULATION of the TORQUE

V Capacity in cc / rev
P Pressure in bar
η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque for one pump body : $\frac{V \times P}{200\ \mu \times \eta_m} = C$ (m.daN)

Example : P 1 ADP 3060 Y A 2008 Y L 20 A04 Pressure : 3060 200 bar 2008 150 bar Speed : 1500 RPM

$\frac{60 \times 200}{628 \times 0,88}$ = 21,3 m.daN

$\frac{8 \times 150}{628 \times 0,85}$ = 2,2 m.daN

= **23,5 m.daN** ⟹ Total torque

Preceding Page

Home - General Contents

General Catalogue Contents

GENERAL CATALOGUE (G10)

Hydraulic gear pumps

Series 5

Thick Front Body

PUMPS CHARACTERISTICS

MOUNTING POSSIBILITIES

PUMPS TYPE: ZFC

MULTIPLE GEARED PUMPS

Publishing 01 / 2003

G10 | 242 | 00

PUMPS CHARACTERISTICS

MODEL (V-VI Sign)	Capacity	PEAK PRESSURE		MAX. WORKING PRESSURE		Maxi Speed	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and m.daN	Approximate weight
							at 1500 RPM	at Maxi Speed			
	cc / rev	bar	PSI	bar	PSI	RPM	l / min	l / min			Kg
5043	43,06	300	4350	255	3700	3000	64,59	129	6,80	6,85	14,2
5052	52,91	300	4350	255	3700	3000	79,36	158,5	8,80	8,42	14,2
5062	62,75	300	4350	255	3700	3000	94,12	188	10,60	9,99	14,4
5072	72,59	300	4350	255	3700	3000	108,88	217,5	12,50	11,55	14,6
5083	83,67	280	4060	240	3480	2700	125,50	226	13,90	13,32	15,1
5093	93,51	250	3625	210	3120	2700	140,26	252,5	15,80	14,89	15,2
5103	103,3	250	3625	210	3120	2700	154,95	279	17,60	16,44	15,2
5125	125,5	250	3625	210	3120	2600	188,25	326	22,50	19,98	15,7
5140	140,2	250	3625	210	3120	2500	210,30	350,5	25,40	22,32	15,8
5153	153	250	3625	210	3120	2400	229,50	367,5	27,24	24,36	15,8

Dimension readings and approximative characteristics subject to modifications .

Performances and Output Curves. (Thanks to contact us)

(Tests effected with Oil SHELL Tellus T 46)

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.

TORQUE CALCULATION

Q Capacity in cc / rev

P Pressure in bar

η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 ZFC 5063 H L 30 D04 Pressure : 150 bar Speed : 2000 RPM

Torque = $\frac{1,56 \times 63 \times 150}{1000 \times 0,90}$ = 16,38 m.daN

F.T R 0208

" GENERAL " CATALOGUE MOUNTING POSSIBILITIES

FRONT BODY (III - IV Sign)	CENTRAL BODY (VII Sign)	REAR BODY (VIII Sign)	TYPE and SHAFT CODE (IX - X - XI Sign)
Z	H	L	30
ZFC			30D04

other possibilities : please refer to " BASIC " catalogue B10

Our " GENERAL" catalogue includes versions of our series 0 to 5 pumps according to European and American Standards (SAE) .

Dimension readings and approximative characteristics subject to modifications .

F.T R 0177

HYDRAULIC GEAR PUMPS

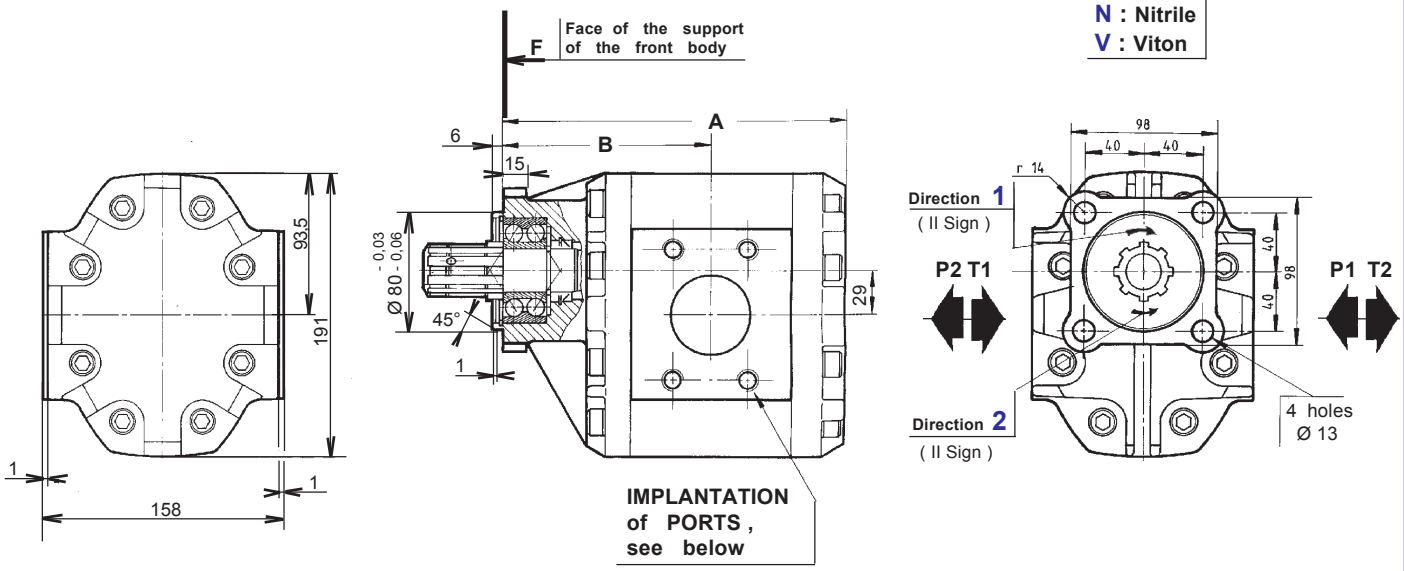
SERIES 5 (THICK FRONT BODY)

PUBLISHING 05 / 07 / 2000

P | II Sign | ZF | C | 5 | VI Sign | H | L | 3 | 0 | D04 | XII Sign

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

N : Nitrile
V : Viton



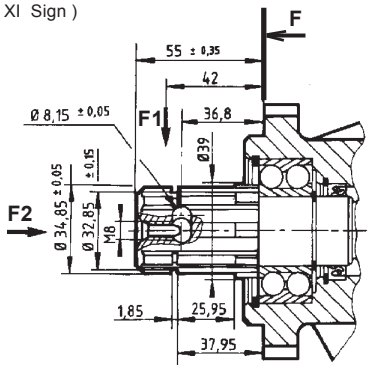
Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	B
043 052 062 072	230	139,7
083 093 103	242	146
125 140 153	263,2	156,5

Multiple geared pumps , see data sheet **F.T 50 553**

DRIVING SHAFT

30 (IX - X Sign)
D04 (XI Sign)



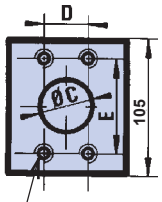
F1 Maxi : 140 daN
F2 Maxi : 50 daN

Parallel spline side
8 x 32 x 36 - to norme NF E 22 131
Pushing Minor diameter

Max. transmissible torque
48 m.daN

IMPLANTATION of PORTS (VII Sign)

H
(HPI)



M14
effective depth 25

Capacity (VI Sign)	INLET (T) ØC	D	E	OUTLET (P) ØC	D	E
043 to 072	55	50,8	89	38	35,6	69,8
082 to 153	65	50,8	89	38	35,6	69,8

CATALOGUE N° 70
Ref. RECOMMANDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
5043	1" 1/4 BSP N: 3.550026 - V: 3.550397	3/4" BSP N: 3.550022 - V: 3.550392
5052 5062	1" 1/4 BSP N: 3.550026 - V: 3.550397	1" BSP N: 3.550023 - V: 3.550393
5072	1" 1/2 BSP N: 3.550027 - V: 3.550398	1" BSP N: 3.550023 - V: 3.550393
5083	1" 1/2 BSP N: 3.550027 - V: 3.550398	1" BSP N: 3.550023 - V: 3.550393
5093 5103	1" 1/2 BSP N: 3.550027 - V: 3.550398	1" 1/4 BSP N: 3.550024 - V: 3.550394
5125 5140	2" BSP N: 3.550028 - V: 3.5510399	1" 1/4 BSP N: 3.550024 - V: 3.550394
5153	2" 1/2 BSP N: 3.550034 - V: 3.550400	1" 1/4 BSP N: 3.550024 - V: 3.550394

F.T 50 531

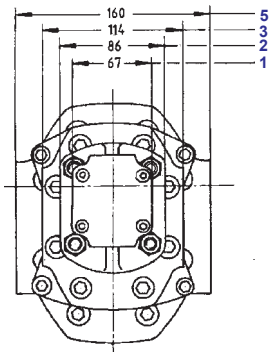
HYDRAULIC GEAR PUMPS SERIES 5 TYPE ZFC

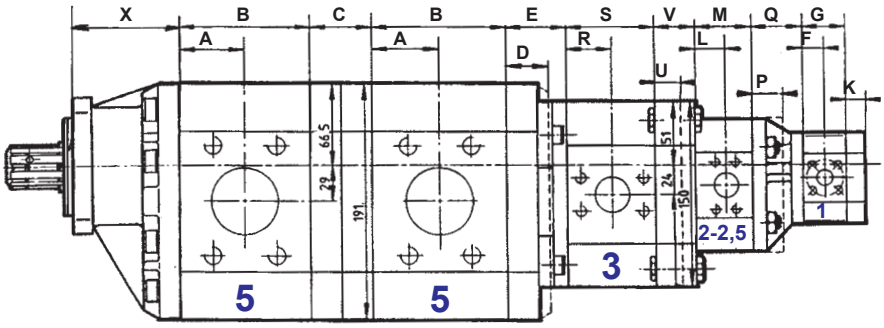
PUBLISHING 05 / 07 / 2000

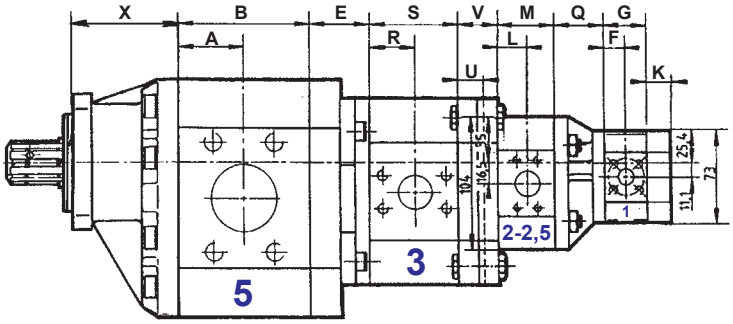
P	II Sign	III Sign	IV Sign	5	VI Sign	H	D	3	X Sign	XI Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

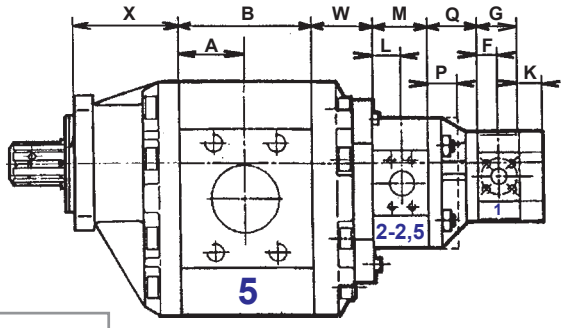
For CODIFICATION , see data sheet F.T R 0030

N : Nitrile
V : Viton
S : Saphir







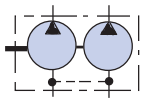


- Hydraulic characteristics ,
- Driving shafts ,
- Supply ports implantation
- Dimensions of " Front body " : see the technical data sheets of the single pumps quoted below.

JUNCTION BODY

Code D
(VIII Sign)

Independant inlet side
(communication of leaks)
(Oil and tank to be necessarily)



Front body Type (III-IV Sign)	Dimensions X	Data sheet reference
ZFC	85	F.T 50 531

Different mounting possibilities between multiple pumps , see data sheet F.T R 0029

Further main dimensions on the following page.

Following Page

MULTIPLE GEARED PUMPS

SERIES 5 (THICK FRONT BODY)

Dimension readings and approximative characteristics subject to modifications .

P	II Sign	III Sign	IV Sign	5	VI Sign	H	D	3	X Sign	XI Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

For CODIFICATION , see data sheet F.T R 0030

N : Nitrile
V : Viton
S : Saphir

SERIES (V - IX Sign)	Capacity (VI - X Sign)	A	B	C	D	E	W	R	S	V	U	L	M	Q	P	F	G	K
5	043 to 072	54,7	109,7	60	35	55	55											
	083 to 103	61	122,2															
	125 to 153	71,6	143,2															
3	020 to 040							36,3	72,7	45	25							
	050 060							49,5	99,2									
	071 to 100							59,2	119,2									
2,5	12											31	61,6	42	24			
	15 to 22											38,8	77,7					
2	004 to 012											23,5	47,0	42	24			
	015 to 022											31	61,6					
	026 030											38,8	77,7					
1	001 to 003															17,9	35,8	18
	004 to 006															22,7	45,6	

Dimension readings and approximative characteristics subject to modifications .

TORQUE CALCULATION

Q Capacity in cc / rev
P Pressure in bar
η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque for one pump body : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 ZFC 5063 H D 3040 H L 30 D04 Pressure : 5063 : 150 bar 3040 : 100 bar Speed : 2000 RPM

$\frac{1,56 \times 63 \times 150}{1000 \times 0,90} = 16,38$ m.daN

$\frac{1,56 \times 40 \times 100}{1000 \times 0,84} = 7,09$ m.daN

$= \boxed{23,47 \text{ m.daN}} \Rightarrow$ Total torque

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General Catalogue Contents

GENERAL CATALOGUE (G10)

Hydraulic gear pumps

Series 4

Flat Front Body

PUMPS CHARACTERISTICS

MOUNTING POSSIBILITIES

PUMPS TYPE: **CBK**

MULTIPLE GEARED PUMPS

Publishing 01 / 2003

G10 | 250 | 00

PUMPS CHARACTERISTICS

MODEL (V-VI Sign)	Capacity	PEAK PRESSURE		MAX. WOIRKING PRESSURE		Maxi SPEED RPM	NOMINAL FLOW		Input power (kW) at 1000 RPM and 100 bar	Input torque at 100 bar and m.daN	Approximate weight Kg
							at 1500 RPM	at Maxi Speed			
	cc / rev	bar	PSI	bar	PSI		l / min	l / min			
4075	075	200	2900	170	2465	2500	112,5	187,5	19,37	14,10	17
4110	110	200	2900	170	2465	2500	165	275	28,42	20,60	17,2
4150	150	200	2900	170	2465	2500	225	375	28,60	28,10	17,4
4175	175	175	2537	150	2175	2500	262,5	437,5	33,67	32,80	19
4212	212	150	2175	130	1885	2500	318	530	40	39	19,4
4250	250	125	1812	105	1523	2000	375	500	46,46	45,23	20

Performances and Output Curves. (Thanks to contact us)
(Tests effected with Oil SHELL Tellus T 46)

Dimension readings and approximative characteristics subject to modifications .

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.

TORQUE CALCULATION

Q Capacity in cc / rev

P Pressure in bar

η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 CBN 4175 H L 20 C06 Pressure : 150 bar Speed : 2000 RPM

Torque = $\frac{1,56 \times 175 \times 150}{1000 \times 0,85}$ = 49,17 m.daN

F.T R 0209

" GENERAL " CATALOGUE MOUNTING POSSIBILITIES

FRONT BODY (III - IV Sign)	CENTRAL BODY (VII Sign)	REAR BODY (VIII Sign)	TYPE and SHAFT CODE (IX - X - XI Sign)
C	H	L	20
CBK			20C06

other possibilities : please refer to " BASIC " catalogue B10

Our " GENERAL" catalogue includes versions of our series 0 to 5 pumps according to European and American Standards (SAE) .

Dimension readings and approximative characteristics subject to modifications .

F.T R 0176

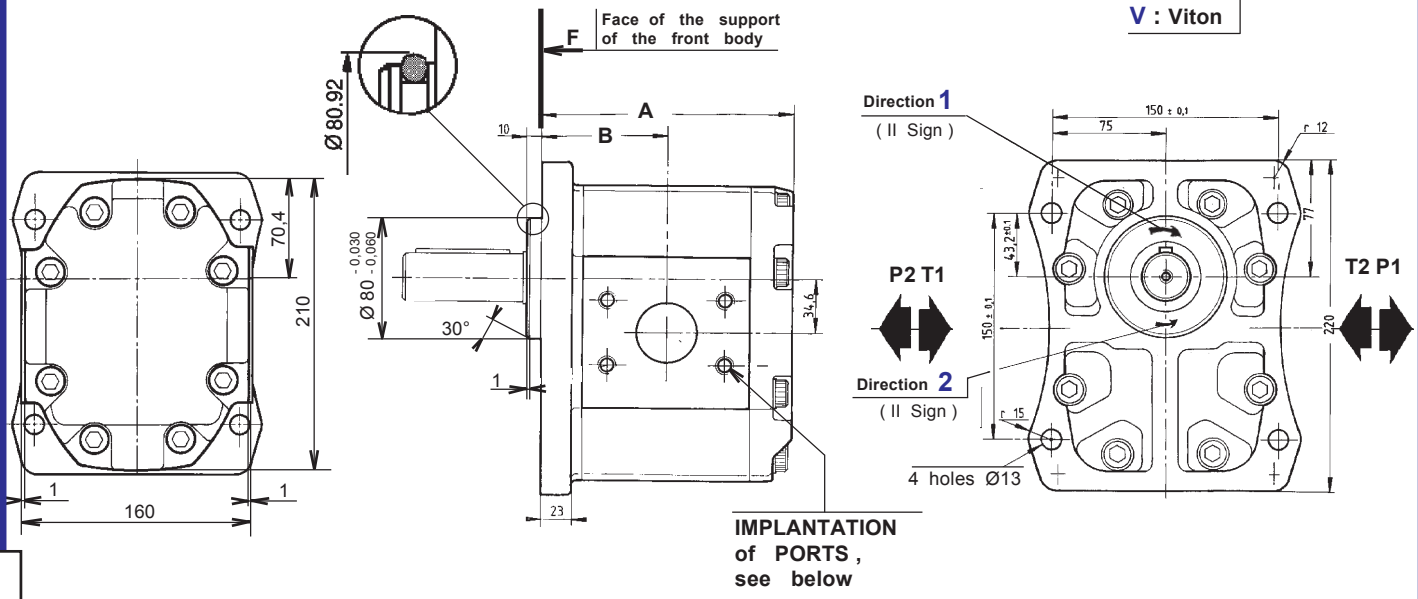
HYDRAULIC GEAR PUMPS

SERIES 4 (FLAT FRONT BODY)

P	II Sign	CB	K	4	VI Sign	H	L	2	0	C06	XII Sign

For CODIFICATION , see data sheet F.T R 0011

N : Nitrile
V : Viton



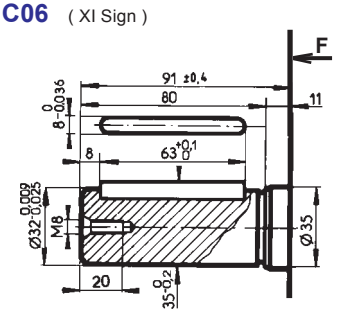
IMPLANTATION of PORTS , see below

Dimension readings and approximative characteristics subject to modifications .

CHOICE of the CAPACITY (VI Sign)	Dimensions A	Dimensions B
175 212 250	203	99,5

DRIVING SHAFT

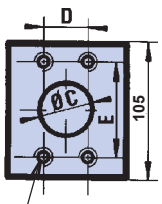
20 (IX - X Sign)
C06 (XI Sign)



Max. transmissible torque
70 m.daN

Multiple geared pumps , see data sheet F.T 40 656

IMPLANTATION of PORTS (VII Sign)	Capacity (VI Sign)	INLET (T) ØC	INLET (T) D	INLET (T) E	OUTLET (P) ØC	OUTLET (P) D	OUTLET (P) E
H (HPI)	075 to 150	60	77,8	42,6	40	77,8	42,9
M12 effective depth 22	175 to 250	70	89	50,8	45	77,8	42,9



CATALOGUE N° 70
Ref. RECOMMENDED FLANGES (for speed 1500 rev / min)

	INLET (T)	OUTLET (P)
4075	1 " 1 / 4 BSP N: 4.500438 V: 4.505071	1 " BSP N: 4.500437 V: 4.505070
4110	1 " 1 / 2 BSP N: 4.500439 V: 4.504871	1 " 1 / 4 BSP N: 4.500438 V: 4.505071
4150	2 " BSP N: 4.500440 V: 4.505072	1 " 1 / 2 BSP N: 4.500439 V: 4.504871
4175	2 " BSP N: 4.500442 V: 4.505073	1 " 1 / 2 BSP N: 4.500439 V: 4.504871
4212	2 " 1 / 2 BSP N: 4.500443 V: 4.505074	1 " 1 / 2 BSP N: 4.500439 V: 4.504871
4250	2 " 1 / 2 BSP N: 4.500443 V: 4.505074	2 " BSP N: 4.500440 V: 4.505072

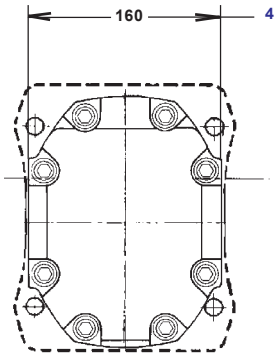
F.T 40 530

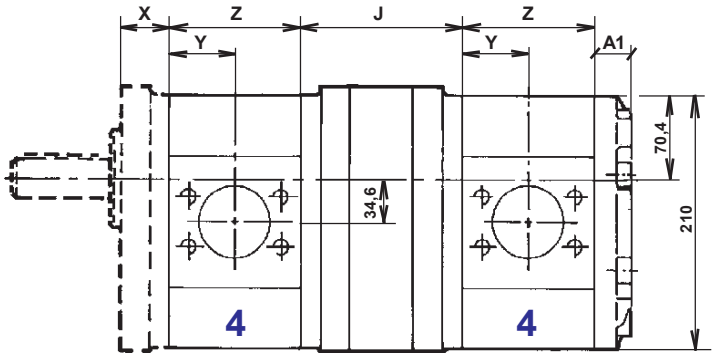
HYDRAULIC GEAR PUMPS SERIES 4 TYPE CBK

P	II Sign	III Sign	IV Sign	4 VI Sign	H	D	3 X Sign	XI Sign	L	XIII Sign	XIV Sign	XV Sign	XVI Sign

For CODIFICATION , see data sheet F.T R 0030

N : Nitrile
V : Viton
S : Saphir

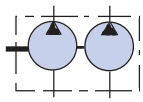




- Hydraulic characteristics ,
- Driving shafts ,
- Supply ports implantation
- Dimensions of " Front body " : see the technical data sheet of the single pumps quoted below .

JUNCTION BODY

Code E (VIII Sign) Tightness between ports



Different mounting possibilities between multiple pumps , see data sheet F.T R 0029

Front body Type (III - IV Sign)	Dimensions X	Data sheet reference
CBK	30	F.T 40 530

SERIES (V - IX Sign)	Capacity (VI - X Sign)	Y	Z	O	J	A1
4	075 to 150	55,5	111,2	53	122,5	34
	175 to 250	69,5	139,2			

TORQUE CALCULATION

Q Capacity in cc / revt

P Pressure in bar

η_m Mechanical efficiency (see catalogue C10)

Calculation of the torque for one pump body : $\frac{1,56 \times Q \times P}{1000 \times \eta_m} = C$ (m.daN)

Example : P 1 CBK 4175 H E 4075 H L 20 C06 Pressure : 4175 : 150 bar 4075 : 100 bar Speed : 2000 t/min

$\frac{1,56 \times 175 \times 150}{1000 \times 0,85} = 48,17$ m.daN

$\frac{1,56 \times 75 \times 100}{1000 \times 0,82} = 14,27$ m.daN

$= \boxed{62,44 \text{ m.daN}} \Rightarrow$ Total torque

MULTIPLE GEARED PUMPS

SERIES 4 (THICK FRONT BODY)

Dimension readings and approximative characteristics subject to modifications .

F.T 40 656

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