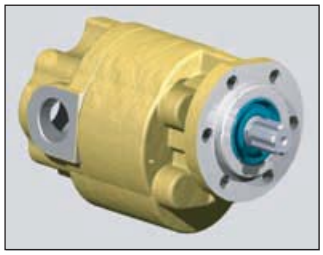
GEAR PUMPS AND MOTORS
HAMWORTHY SERIES

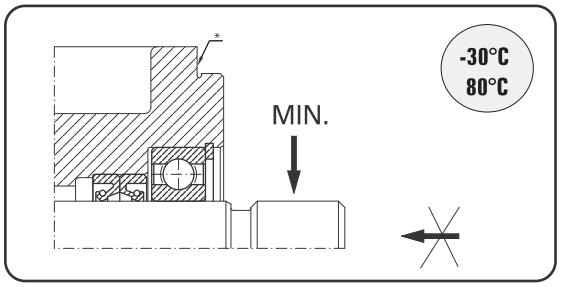


Model	1604	1606	1608	1610	1613	1617
Displacement [ccm/rev]	12,4	14,6	19,4	24,3	31,6	41,3
Rated pressure [MPa]	17	17	17	17	15,5	15,5
Max speed [rpm]	pumps 2700 motors 3000					
Max torque motors [Nm]	31	36	48	60	72	84

Seal design **Dimensions data** **Drive shaft** **Mounting flange** **Ports**

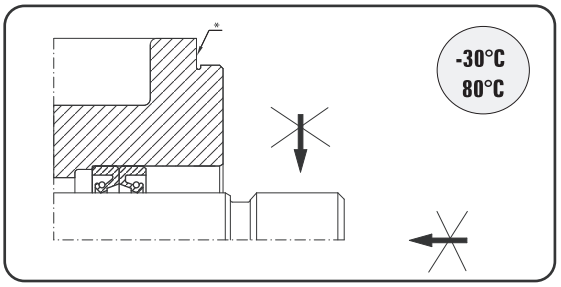
HOW TO ORDER

P-PUMP M-MOTOR	DESIGN LEVEL 1- without 2 or 3	SEAL DESIGN	BEARINGS roller - without	SIZE	DRIVE SHAFTS	FLANGE	PORTS	Rotation A- anticlockwise C- clockwise D- birotation
P	2	C		1604	B	8	C23	C
P M	2	A B C E A2P A2PV C2P C2PV	roller	1604 1606 1608 1610 1613 1617	A B V AD F	1 2 3 5 8	C21/E21 C23/E23 C5/E5 C9/E9 L 32	A C D



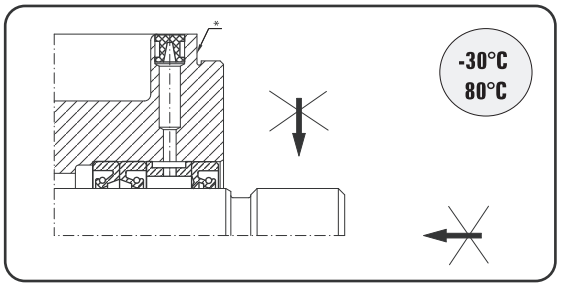
code A

Suitable for drives with limited radial load



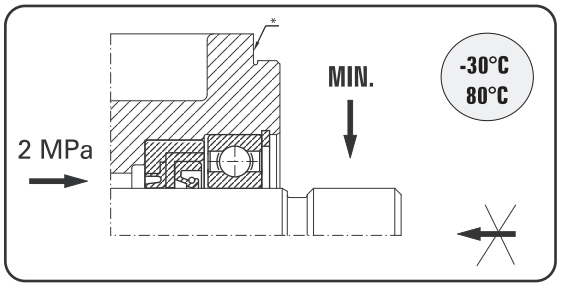
code B

Suitable for drives with no load



code C

Visible-bleed drilling suitable for drives with no load for direct mounting on torque

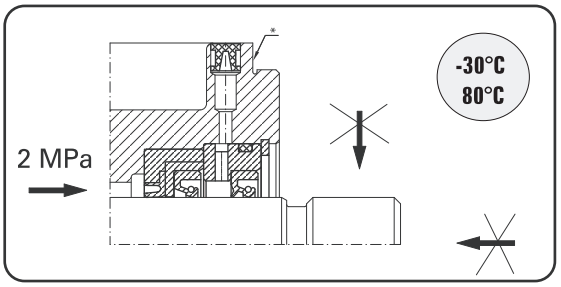


code A2P, A2PV

Options of high pressure shaft seal suitable for drives with limited radial load

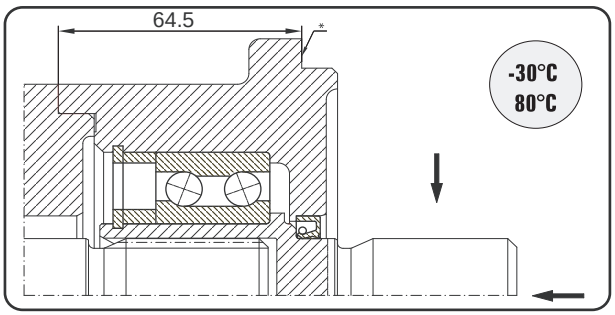
2P-bi-rotation no check valves with external drain.

2PV-bi-rotation with check valves.



code C2P, C2PV

Options of high pressure shaft seal suitable for drives with no load visible-bleed driling

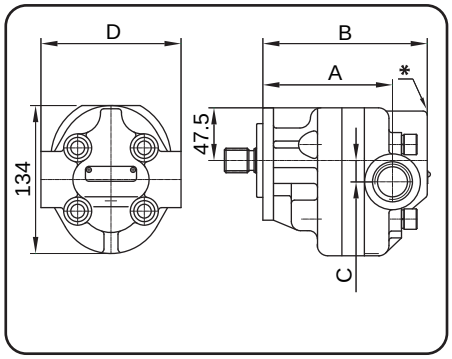


code E

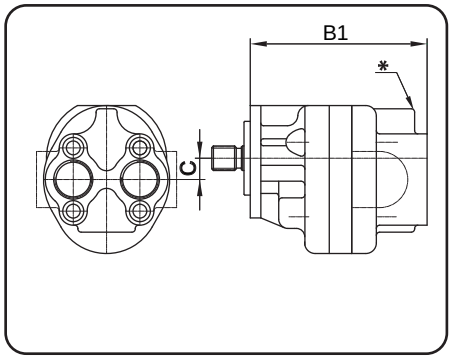
Suitable for drives with heavy axial load and some radial on to drive shaft

* standard flange mounting surface

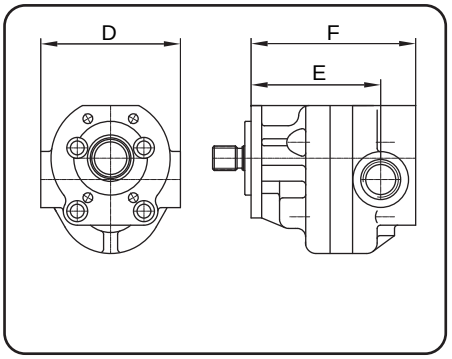
GEAR PUMPS AND MOTORS
HAMWORTHY SERIES



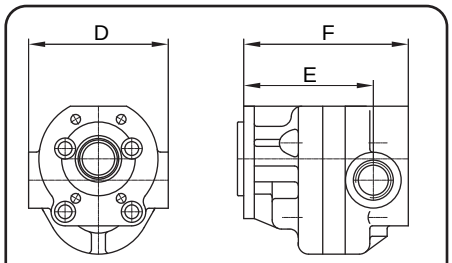
Single unit (side ports)



Single unit (end ports)

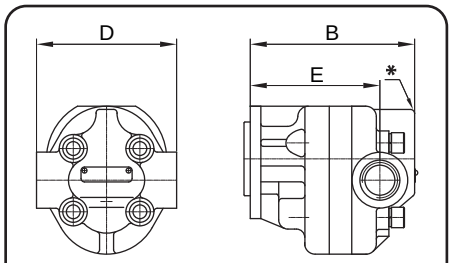


Front unit



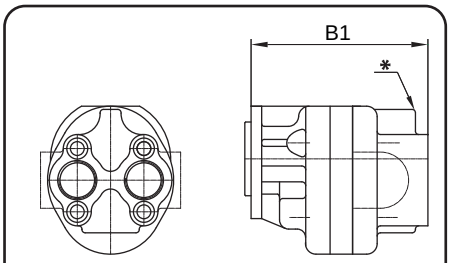
connection to series **1600, 2100**

Intermediate unit



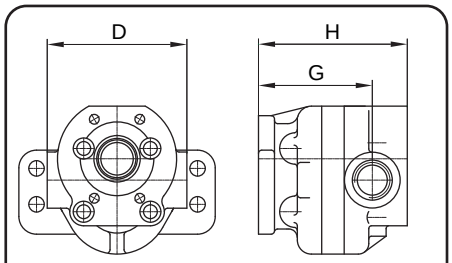
connection to series **1600, 2100**

Rear unit (side ports)



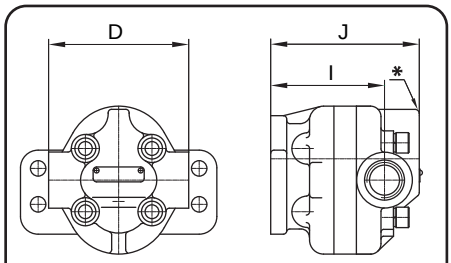
connection to series **1600, 2100**

Rear unit (end ports)



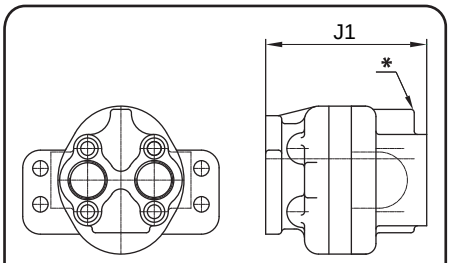
connection to series **1900, 2200, 2400**

Intermediate unit



connection to series **1900, 2200, 2400**

Rear unit (side ports)



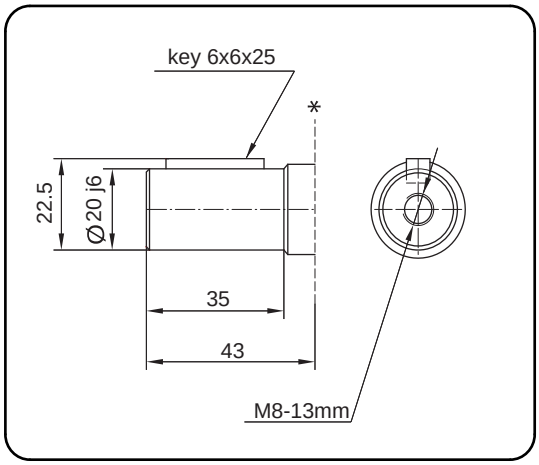
connection to series **1900, 2200, 2400**

Rear unit (end ports)

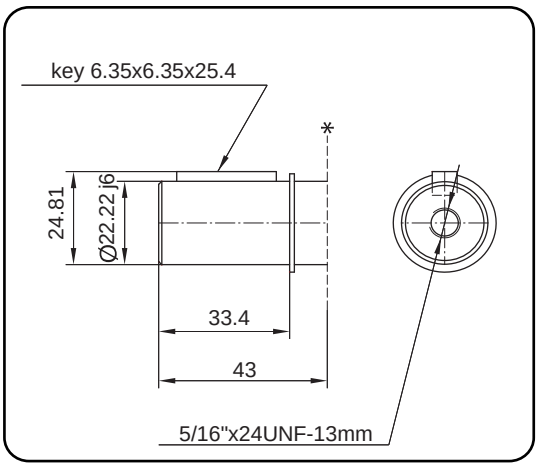
SIZE	A	B	B1	C	WEIGHT [kg]	E	F	WEIGHT [kg]	G	H	WEIGHT [kg]	I	J	J1	WEIGHT [kg]	D
1604	112	144	155	19,3	7	112	144	7	98	130	7	98	130	141	7	127
1606	112	144	155	19,3	7	112	144	7	98	130	7	98	130	141	7	127
1608	117	149	160	19,3	8	117	149	8	103	135	8	103	135	146	8	127
1610	122	154	165	19,3	8	122	154	8	108	140	8	108	140	151	8	127
1613	130	162	173	19,3	9	130	162	9	116	148	9	116	148	159	9	127
1617	140	172	183	19,3	9	140	172	9	126	158	9	126	158	169	9	127

* drain port for motors

SHAFTS WITH KEY

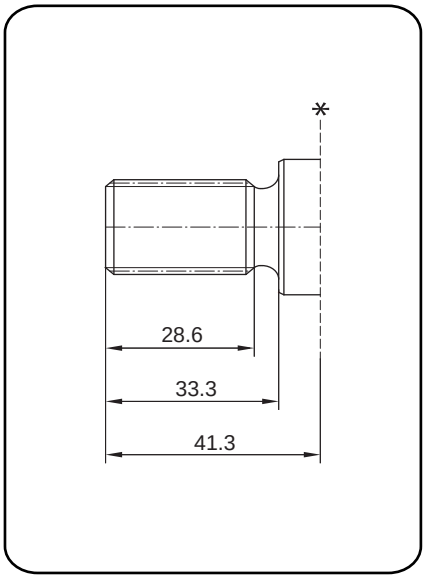


code AD

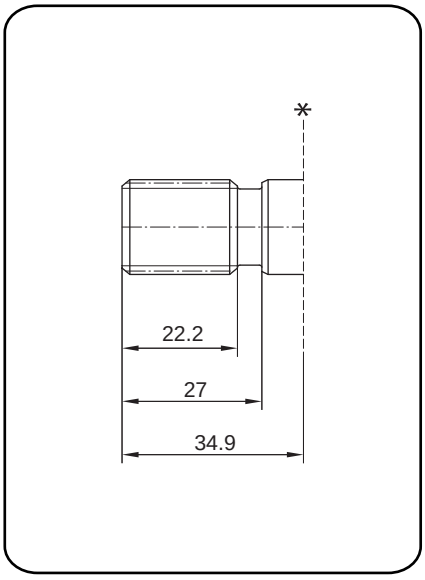


code F

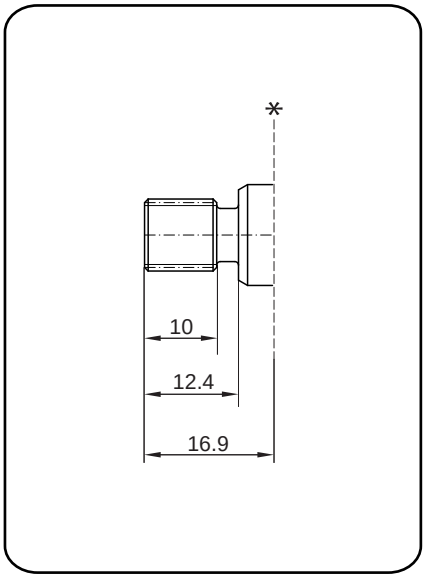
INVOLUTE SPLINE SHAFTS



code B



code V

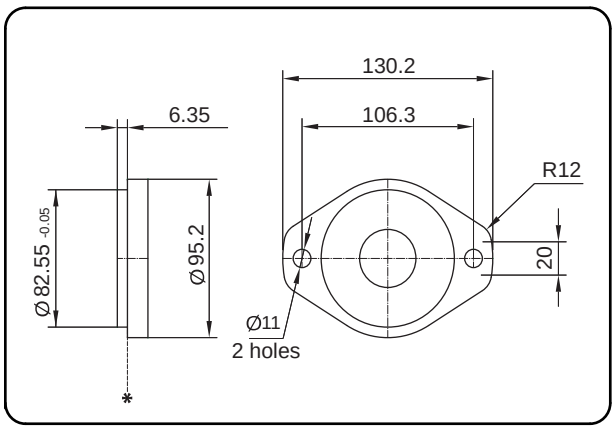


code A

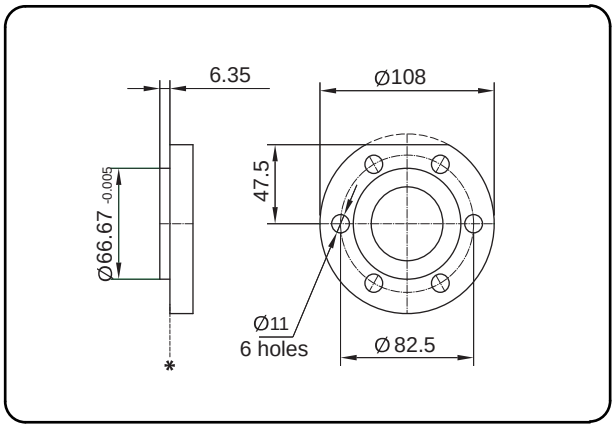
* standard flange mounting surface

	size	side fit	diametral pitch	pressure angle	number of teeth	major diameter
code B,V	SAE B 7/8"	flat root	16/32	30 °	13	21,79/ 21,66
code A	SAE A 5/8"	flat root	16/32	30 °	9	15,44/ 15,30

SAE A

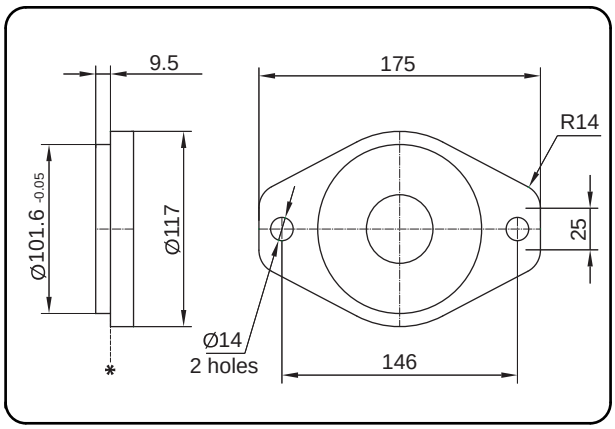


code 1

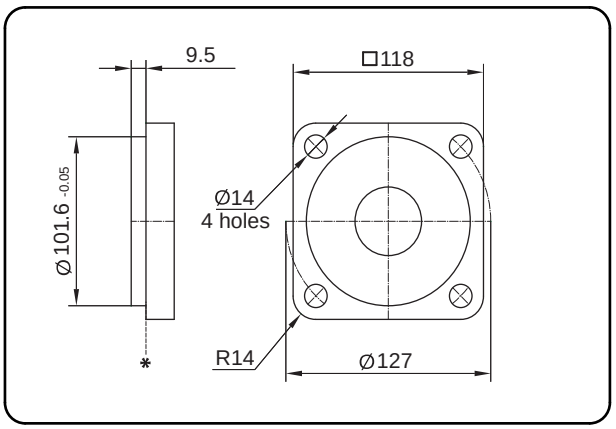


code 8

SAE B

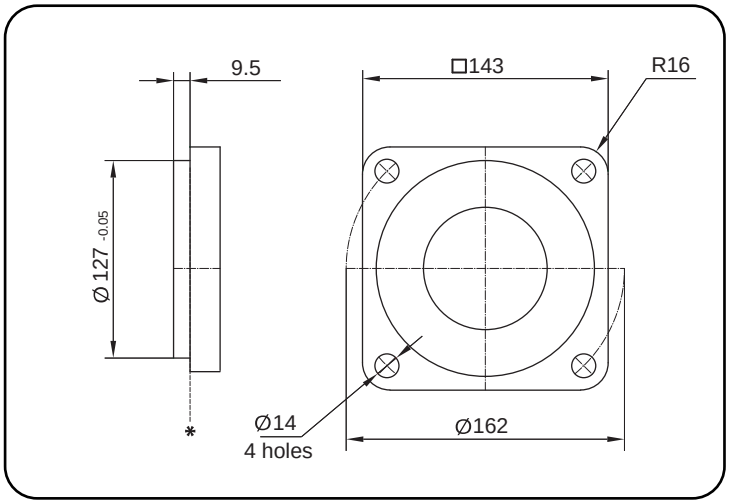


code 2



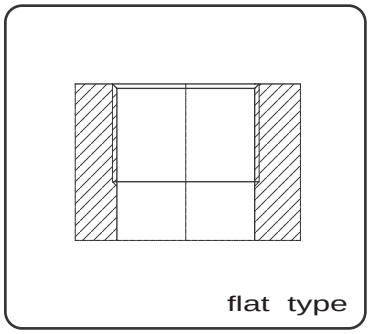
code 3

SAE C

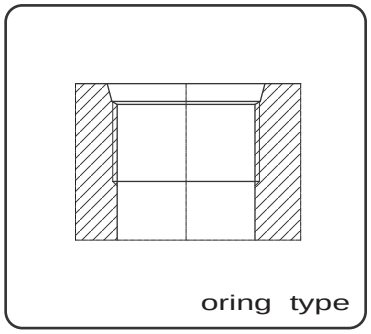


code 5

* standard flange mounting surface



C5, C21, E5, E21

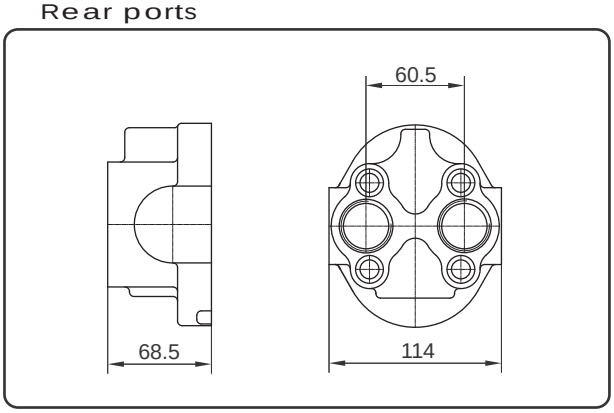


C9, C23, E9, E23

side ports	inlet	outlet	end ports
C5	1"B.S.P.P	1"B.S.P.P	E5
C9	15/16 UNF-SAE oring	15/16 UNF-SAE oring	E9
C21	M33x1.5	M33x1.5	E21
C23	M33x2 oring	M33x2 oring	E23

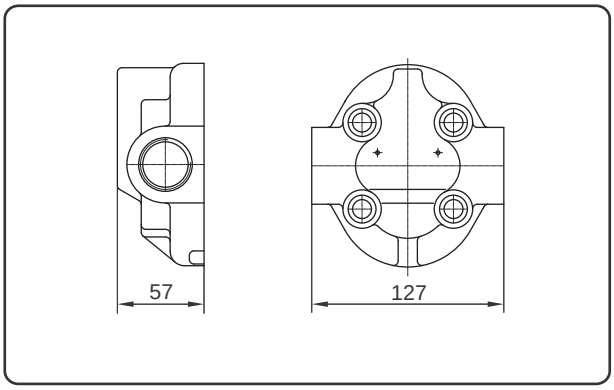
side ports	L32
inlet	1"B.S.P.P oring
outlet	1"B.S.P.P oring

Rear ports



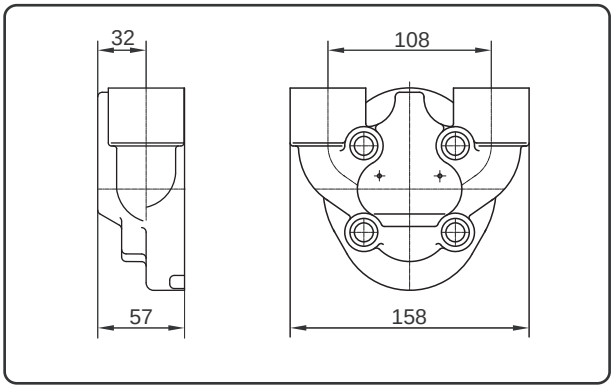
E5, E9, E21, E23

Side ports



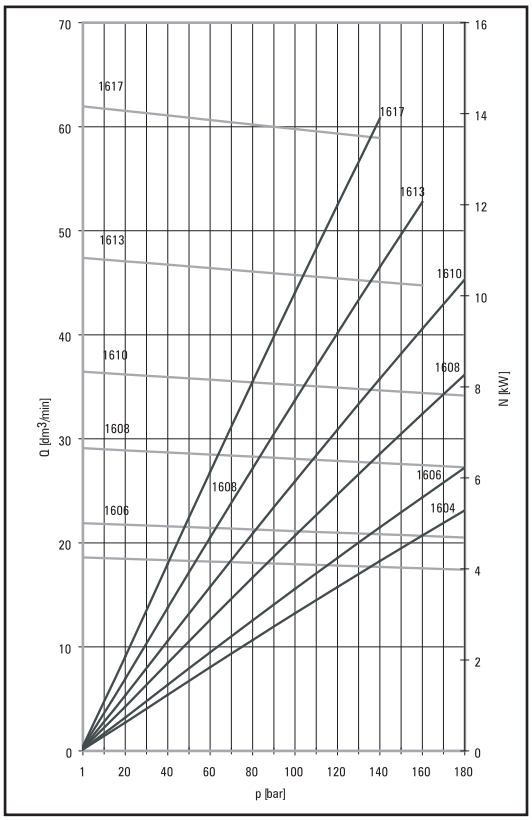
C5, C9, C21, C23

Top ports



L32

PUMP CHARACTERISTICS



1600 SERIES

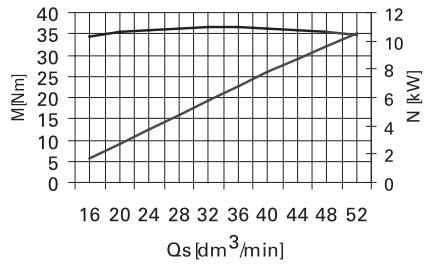
FLOW

INPUT POWER

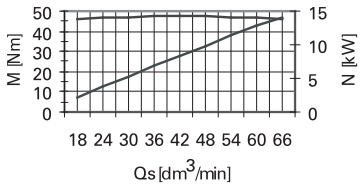
*Characteristic at shaft speed 1500 r.p.m.

MOTOR CHARACTERISTICS

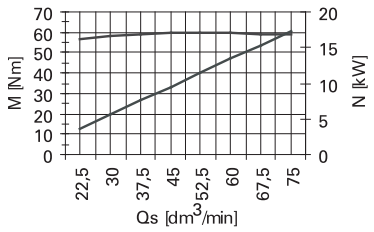
1606 Motor (170 bar)



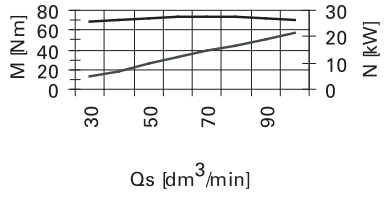
1608 Motor (170 bar)



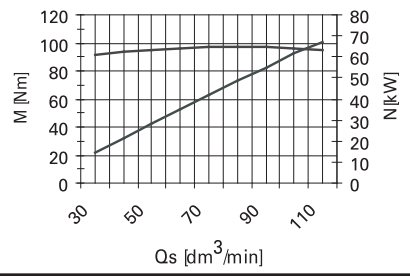
1610 Motor (170 bar)



1613 Motor (160 bar)



1617 Motor (160 bar)



1600 SERIES

DRIVE SHAFT

POWER LIMITATIONS