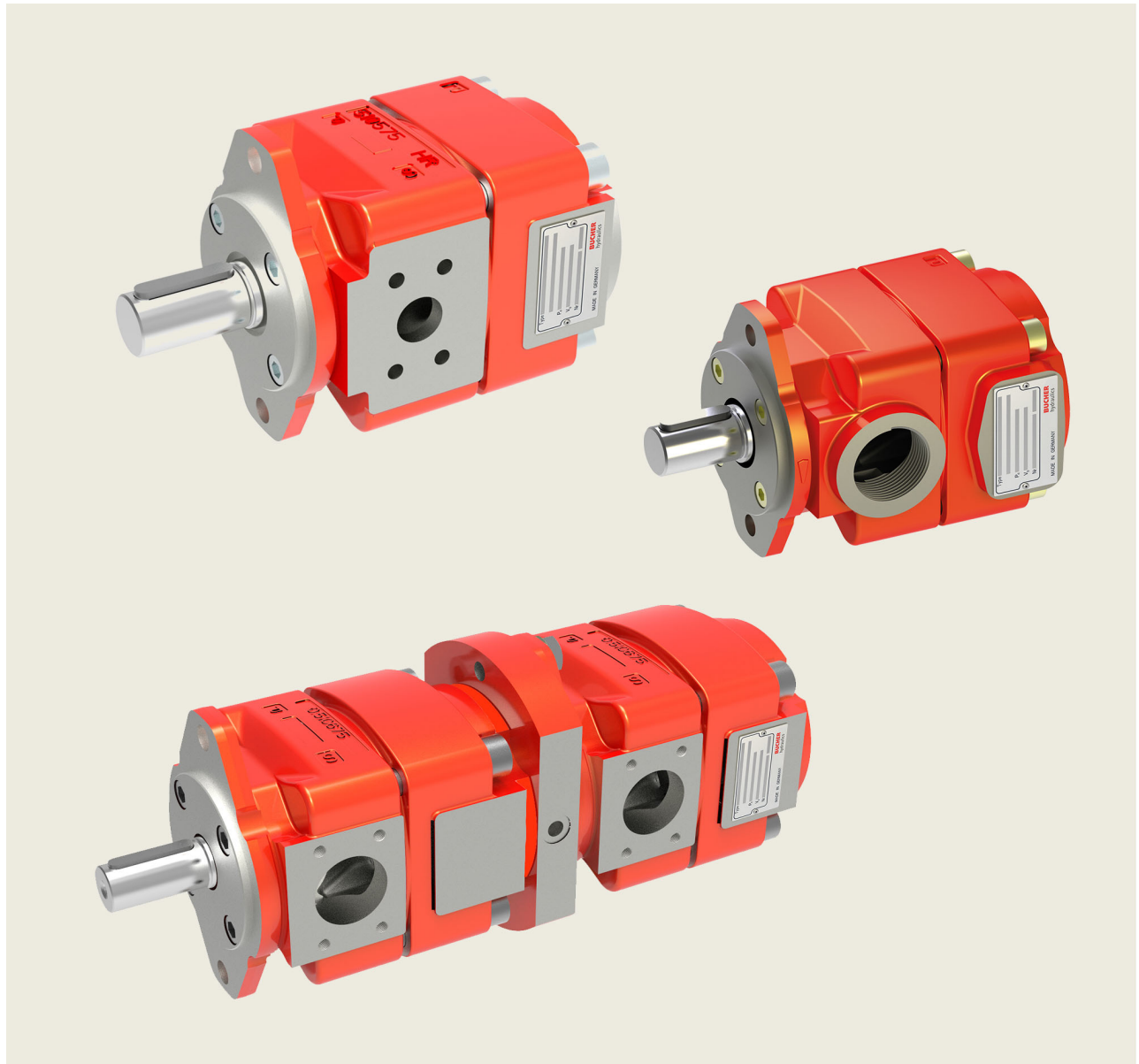


Internal Gear Pump

Series QXEH



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1 General

1.1 Product description

The design of the internal gear pumps, series QXEH, is completely focused on high customer benefits. The pumps are ideal for use with variable speed drives over a very wide speed range and for operation in reverse mode. They work with just one gear stage, and thanks to their compact design they can be incorporated in machines in a particularly space-saving manner. The QXEH range displays further advantages in difficult environments with high cyclic loading: the rugged design provides high reliability throughout the long service life and enables the pumps to be used with various pressure media, because even with critical fluids they resist cavitation.

The minimised number of moving parts and the special tooth geometry ensure maximum acceleration values. This shortens the cycle time, which raises the productivity of the machine. Compared to other drives, including gap-compensated internal gear pumps, the QXEH range offers distinct advantages in this area.



1.2 Advantages

- generates high pressures in just one stage
- simple and compact construction
- resists cavitation with critical fluids
- very low noise levels
- maximum reliability, also for reverse mode
- pressure and flow pulsations are minimal
- ideally suited for use with variable-speed drives

1.3 Application examples

- Hydraulic presses
- Injection moulding machines
- Machine tools
- Waste compactors
- Lift/elevator drives
- Pressure diecasting machines
- Plastics-processing machines
- Hydraulic power units

2 Technical data

2.1 General

Deviating values are possible on request.

General characteristics	Unit	Description, value
Installation attitude		unrestricted
Mounting method (standard)		oval 2-hole flange to ISO 3019/1 (SAE): QXEH 3-6 oval 2-hole flange to ISO 3019/2 (Metr.): QXEH 8
Direction of rotation		cw
Reverse mode		for pressure control / pressure relief, concerning the application limits please contact Bucher Hydraulics
Pump drive method		in-line, through a flexible coupling or direct connection with SAE tooth spline
Fluids		HLP mineral oils to DIN 51524, Part 2 HFC fluids to VDMA 24317
Maximum admissible level of contamination of the hydraulic fluid		ISO 4406 code 20/18/15
Operating viscosity	ft ² /s	2.16 ... 16.2 (10 ... 100 mm ² /s [cSt])
Start-up viscosity		2.16 ... 32 (10 ... 300 mm ² /s [cSt])
Hydraulic fluid temperature range	°F	HLP-mineral oils: min. -4 (-20°C) ... max. 176 (+80°C) HFC: min. -4 (-20°C) ... max. 122 (+50°C) range for max. long life cycle: 86 (+30°C) ... 140 (+60°C) (considering viscosity field)

Inlet pressure: suction port	psi	maximum 22 (1.5 bar) absolute (without external drain connection) minimum 7 ... 14 (0.5 ... 0.98 bar) absolute, dependent on displacement and speed option 06 (external drain port): inlet pressure up to 1450 (100 bar)
Start-up under load	psi	maximum 290 (20 bar)
Seal material		NBR (Nitrile) = standard, FKM (Viton) = option

2.2 Main characteristics

IMPORTANT. The main characteristics are valid for mineral oils DIN 51524 with a viscosity of 2.16 ... 5.40 ft²/s (20 ... 50 mm²/s)

Displacement ¹⁾	Flow rate	Maximum speed ⁵⁾		Code	Max. operating pressure at the pump outlet side				Torque ³⁾	Power consumption ⁴⁾
		Mineral oil	HFC		continuous		intermittent ²⁾			
					Mineral oil	HFC	Mineral oil	HFC		
effective	1450 rpm p = 0 psi	rpm	rpm	psi (bar)	psi (bar)	psi (bar)	psi (bar)	lbs in (Nm)	hp (kW)	
in ³ /rev (cm ³ /rev)	gpm (l/min)	(min ⁻¹)	(min ⁻¹)							
0.61 (10.0)	3.83 (14.5)	5500	5000	QXEH32-010	3600 (250)	3200 (220)	4000 (280)	3400 (240)	352 (39.8)	8.0 (6)
0.76 (12.6)	4.83 (18.3)	5100	4500	QXEH32-012	3600 (250)	3200 (220)	4000 (280)	3400 (240)	443 (50.1)	10.2 (7.6)
0.95 (15.6)	5.97 (22.6)	4300	3800	QXEH32-016	3600 (250)	3200 (220)	4000 (280)	3400 (240)	550 (62.1)	12.6 (9.4)
1.23 (20.3)	7.79 (29.5)	4000	3600	QXEH42-020	3600 (250)	3200 (220)	4000 (280)	3400 (240)	715 (80.8)	16.5 (12.3)
1.53 (25.1)	9.62 (36.4)	3700	3200	QXEH42-025	3600 (250)	3200 (220)	4000 (280)	3400 (240)	884 (99.9)	20.4 (15.2)
1.97 (32.3)	12.36 (46.8)	3400	2800	QXEH42-032	3600 (250)	3200 (220)	4000 (280)	3400 (240)	1137 (128.5)	26.1 (19.5)
2.38 (39.1)	15.03 (56.9)	3200	2700	QXEH52-040	3600 (250)	3200 (220)	4000 (280)	3400 (240)	1377 (155.6)	31.6 (23.6)
3.06 (50.3)	19.34 (73.2)	3000	2600	QXEH52-050	3600 (250)	3200 (220)	4000 (280)	3400 (240)	1771 (200.1)	40.8 (30.4)
3.86 (63.4)	24.33 (92.1)	2800	2400	QXEH52-063	3600 (250)	3200 (220)	4000 (280)	3400 (240)	2233 (252.3)	51.4 (38.3)
4.86 (79.8)	30.64 (116)	2700	2300	QXEH62-080	3600 (250)	3200 (220)	4000 (280)	3400 (240)	2810 (317.5)	64.6 (48.2)
6.13 (100.5)	38.57 (146)	2500	2200	QXEH62-100	3600 (250)	3200 (220)	4000 (280)	3400 (240)	3539 (399.9)	81.4 (60.7)
7.57 (124.2)	47.82 (181)	2300	2000	QXEH62-125	3600 (250)	3200 (220)	4000 (280)	3400 (240)	4374 (494.2)	100.6 (75)
9.87 (161.9)	62.08 (235)	1900	1700	QXEH82-160	3626 (250)	3191 (220)	4061 (280)	3481 (240)	5702 (644.2)	131.2 (97.8)
12.2 (200.0)	76.61 (290)	1750	1600	QXEH82-200	3626 (250)	3191 (220)	4061 (280)	3481 (240)	7073 (795.8)	162.0 (120.8)
15.1 (247.7)	94.84 (359)	1650	1450	QXEH82-250	3626 (250)	3191 (220)	4061 (280)	3481 (240)	8723 (985.6)	200.8 (149.7)

1) Due to manufacturing tolerances, there may be slight variations in the displacement.

2) Maximum 20 seconds, but not for more than 40% of the duty cycle.

3) Theoretical value without taking into account the efficiencies at the maximum permissible continuous pressure for mineral oil at the pump outlet.

4) Theoretical value without taking into account the efficiencies at the maximum permissible continuous pressure for mineral oil at the pump outlet at n = 1450 rpm.

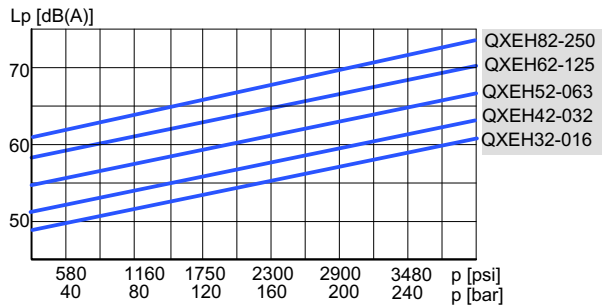
5) Maximum rated speeds for inlet pressure > 14 psi (0.95 bar) abs. and outlet pressure > 1450 psi (100 bar). For operation with higher speed contact Bucher Hydraulics.

3 Performance graphs

IMPORTANT. The performance graphs shown are valid for the specified pump models.
For other pump models contact Bucher Hydraulics GmbH.

3.1 Noise level (L_p)

Measured to DIN 45635, Part 26, in Stuttgart University's anechoic noise measurement chamber:
measurement distance 39 in (1 m)
speed $n = 1450$ rpm, viscosity = $4.45 \text{ ft}^2/\text{s}$ ($42 \text{ mm}^2/\text{s}$ [cSt])

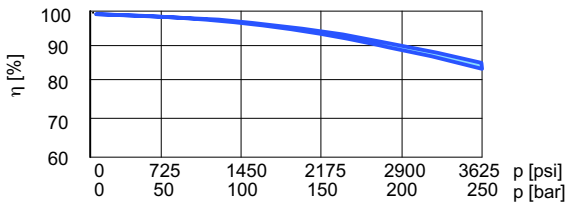


3.2 Efficiencies (η)

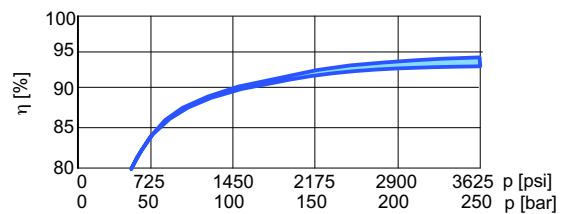
Measured at viscosity $4.54 \text{ ft}^2/\text{s}$ ($42 \text{ mm}^2/\text{s}$), speed 1450 rpm

3.2.1 QXEH32

Volumetric efficiency

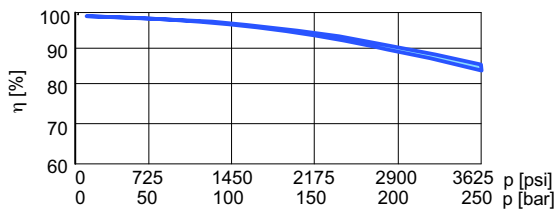


Hydromechanical efficiency

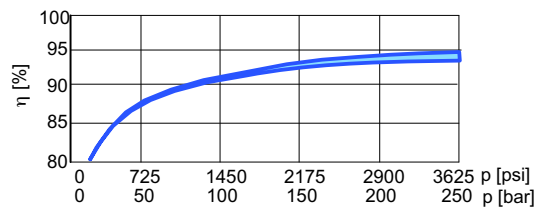


3.2.2 QXEH42

Volumetric efficiency

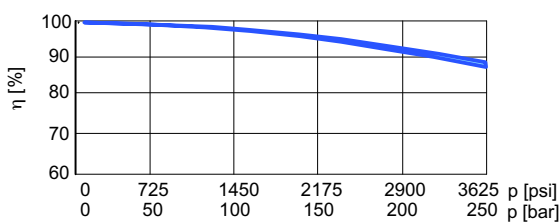


Hydromechanical efficiency

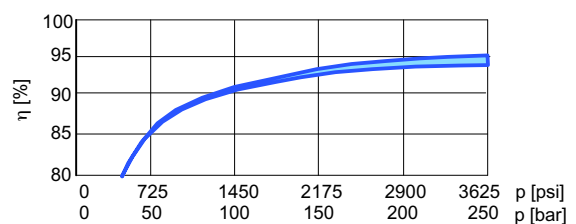


3.2.3 QXEH52

Volumetric efficiency

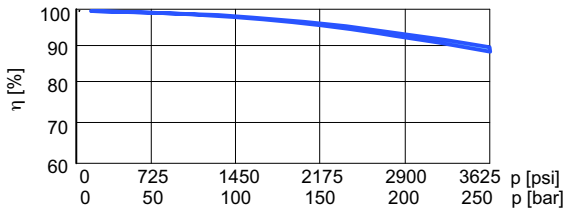


Hydromechanical efficiency

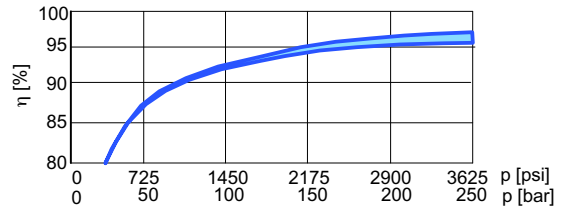


3.2.4 QXEH62

Volumetric efficiency

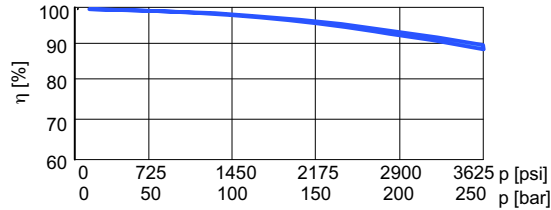


Hydromechanical efficiency

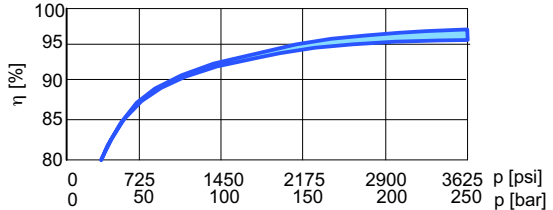


3.2.5 QXEH82

Volumetric efficiency



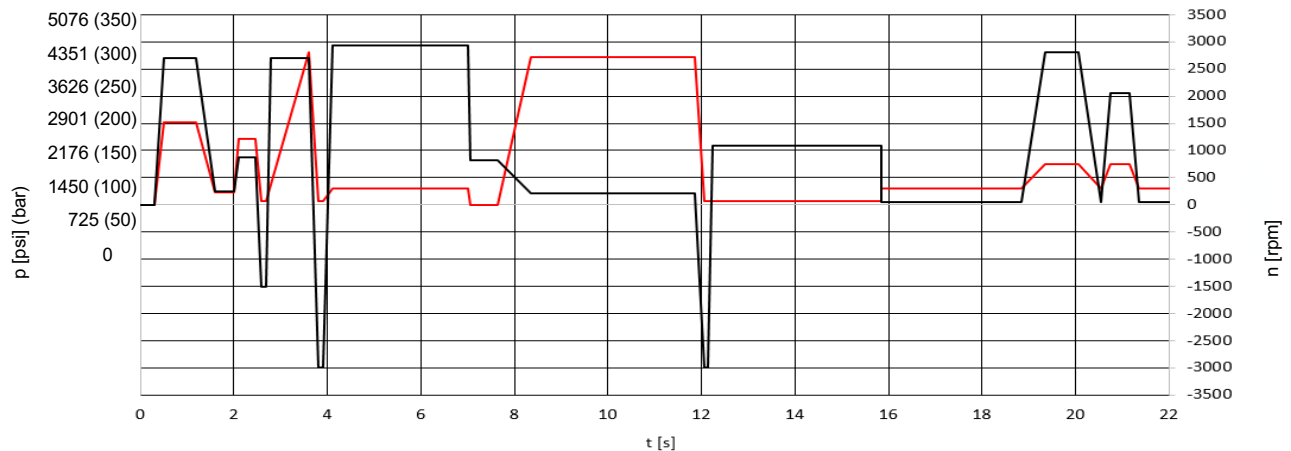
Hydromechanical efficiency



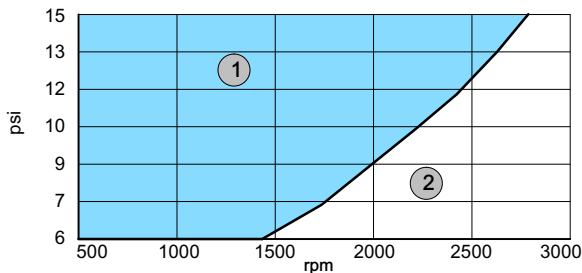
3.3 Operation with variable-speed drives

IMPORTANT: The following main characteristics are to be understood as examples only. They are valid only for QXEH52-063R06 with a viscosity of 42 mm²/s. We would be very happy to advise you on the layout of your drive. All QXEH pumps with variable-speed drive contain an external drain port (option 06).

3.3.1 Loading example for use in injection moulding machines

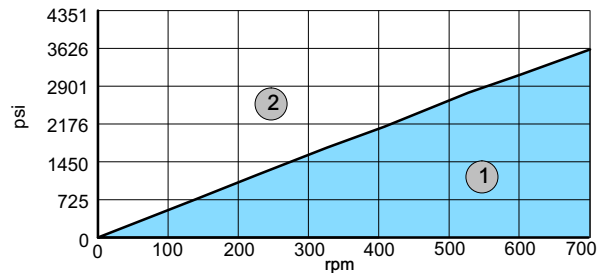


3.3.2 Minimum pressure (absolut) at pump inlet as a function of speed



1	continuous operation
2	no operation

3.3.3 Minimum speed as a function of pressure



1	continuous operation
2	Operation with time restrictions. Detailed operating limits after discussion with Bucher Hydraulics.

4 Single pumps

4.1 Dimensions in inch (mm)

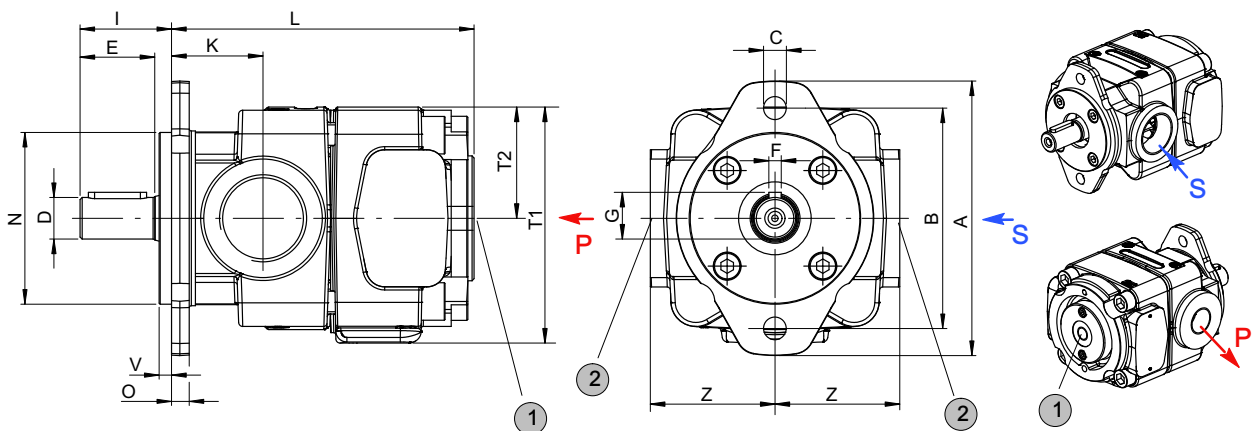
Frame size		3	4	5	6	8
Suction port	S	G1¼" ³⁾ thread	1½" ¹⁾	2" ¹⁾	2½" ¹⁾	3" ¹⁾
Pressure port	P	G¾" ³⁾ thread	1" ¹⁾	1¼" ¹⁾	1½" ¹⁾	2" ¹⁾
External drain port (option)	①	G¼"	G¼"	G¼"	G¾"	G½"
Mounting method: oval 2-hole flange to ISO 3019/1 (SAE) ISO 3019/2 (Metr.)	A	5.19 (132)	6.69 (170)	8.34 (212)	10.51 (267)	12.99 (330)
	B (SAE)	4.17 (106)	5.74 (146)	7.12 (181)	9.01 (229)	-
	B (Metr.)	-	-	-	-	11.02 (280)
	C	0.43 (11)	0.55 (14)	0.70 (18)	0.86 (22)	1.02 (26)
	N (SAE)	3.25 ^{-0.0019} (82.55 ^{-0.05})	4.0 ^{-0.0019} (101.6 ^{-0.05})	5.0 ^{-0.0019} (127 ^{-0.05})	6.0 ^{-0.0019} (152.4 ^{-0.05})	-
	N (Metr.)	-	-	-	-	7.87 (200 h8)
	O	0.33 (8.5)	0.41 (10.5)	0.49 (12.5)	0.65 (16.5)	0.78 (20)
Shaft end: parallel, to ISO/R775 ²⁾	D	0.78 (20) j6	0.98 (25) j6	1.26 (32) j6	1.57 (40) j6	1.96 (50) j6
	E	1.41 (36)	1.65 (42)	2.28 (58)	3.22 (82)	4.33 (110)
	F	0.23 (6)	0.31 (8)	0.39 (10)	0.47 (12)	0.55 (14)
	G	0.88 (22.5)	1.10 (28)	1.37 (35)	1.69 (43)	2.10 (53.5)
	I	1.73 (44)	2.00 (51)	2.67 (68)	3.62 (92)	4.80 (122)
Body	K	1.73 (44)	2.06 (52.5)	2.38 (60.5)	2.91 (74)	3.54 (90)
	L	5.61 (142.5)	6.92 (176)	8.26 (210)	9.80 (249)	12.24 (311)
	T1	4.48 (114)	5.39 (137)	6.96 (177)	8.66 (220)	10.82 (275)
	T2	2.12 (54)	2.63 (67)	3.48 (88.5)	4.33 (110)	5.45 (138.5)
	Z	2.36 (60)	2.46 (62.5)	3.07 (78)	3.87 (98.5)	4.92 (125)
Weight	[lbs] (kg)	20.9 (9.5)	37.5 (17)	68.3 (31)	132.3 (60)	4.64 (118)

- 1) Pipe flange dimensions, SAE J518 code 61 bzw. ISO 6162-1
 - high-pressure type for up to 6092 psi (420 bar) see section 9.1
 - low-pressure type for up to 232 psi (16 bar) see section 9.2

2) For other shaft ends please consult Bucher Hydraulics.

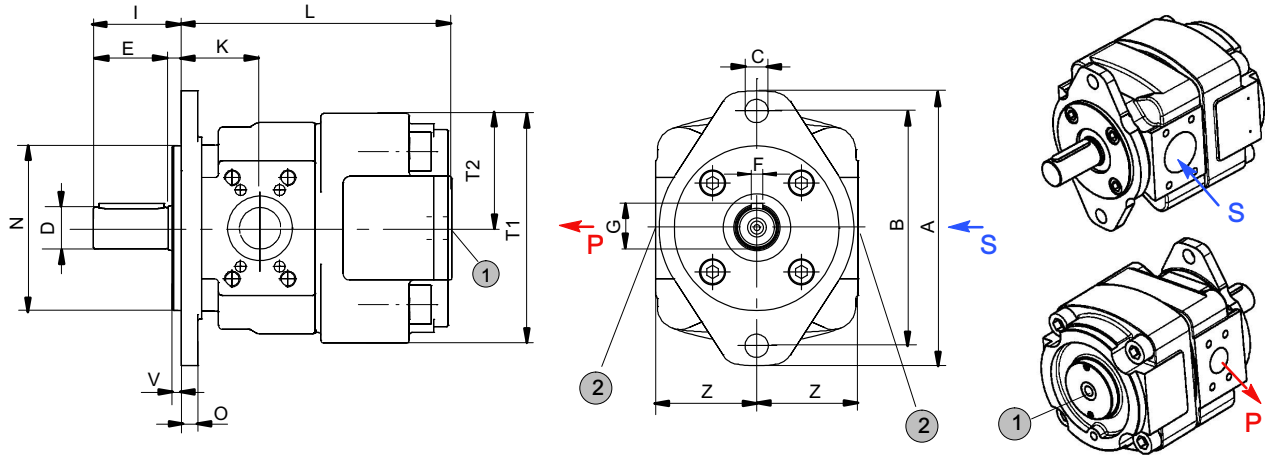
3) Threaded port to DIN 3852 Part 2.

4.1.1 Frame size 3



1	external drain port on models with option 06	2	threaded port to DIN 3852 part 2
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4.1.2 Frame size 4 - 8



1	external drain port on models with option 06	2	threaded port to DIN 3852 part 2
---	--	---	----------------------------------

4.2 Ordering code

		Q X E H	52	-	0 4 0	R	0 9
Series	=	QXEH					
Frame size	=	32, 42, 52, 62, 82					
Displacement in in ³ /rev	=	0.61 - 15.11 (010 - 247.7 cm ³ /rev)					
Direction of rotation (viewed from the shaft end)							
right / cw (standard)	=	R					
Option:		see section 4.2.3					

4.2.1 Ordering example:

Required: single pump
 Displacement 2.5 in³/rev (40 cm³/rev)
 Continuous pressure 3600 psi (250 bar)

Seal material: FKM (Viton)
 For use with mineral oil
 Ordering Code: QXEH52-040R09

4.2.2 Standard configuration

- direction of rotation - right (cw)
- 2-hole mounting flange to ISO 3019/1 (SAE): sizes QXEH 3-6
- 2-hole mounting flange to ISO 3019/2 (Metr.): size QXEH 8
- Nitrile seals
- cylindrical shaft end to ISO R775
- black priming RAL 9004, flange without priming

4.2.3 Options

- O = pump without priming
- 06 = external drain port
 - QXEH 3-5 = G1/4"
 - QXEH 6 = G3/8"
 - QXEH 8 = G1/2"
- 09 = seal material FKM (Viton), without priming
- 11 = shaft end with spline shaft SAE ANSI B92.1, DIN ISO 3019-1
- 11-6 = combination of option 11 and 06
- 29 = for HFB and HFC fluids, pump without priming
- 29-6 = combination of option 29 and option 06

5 Double pumps

QXEH pumps of the same size or of different sizes can be combined to form double pumps.

This double pump consists of two hydraulically separated single pumps driven by one motor unit.

An internal coupling connects the two pinion shafts, both of which are a one-piece design. The two single pumps each have a suction and a pressure port.

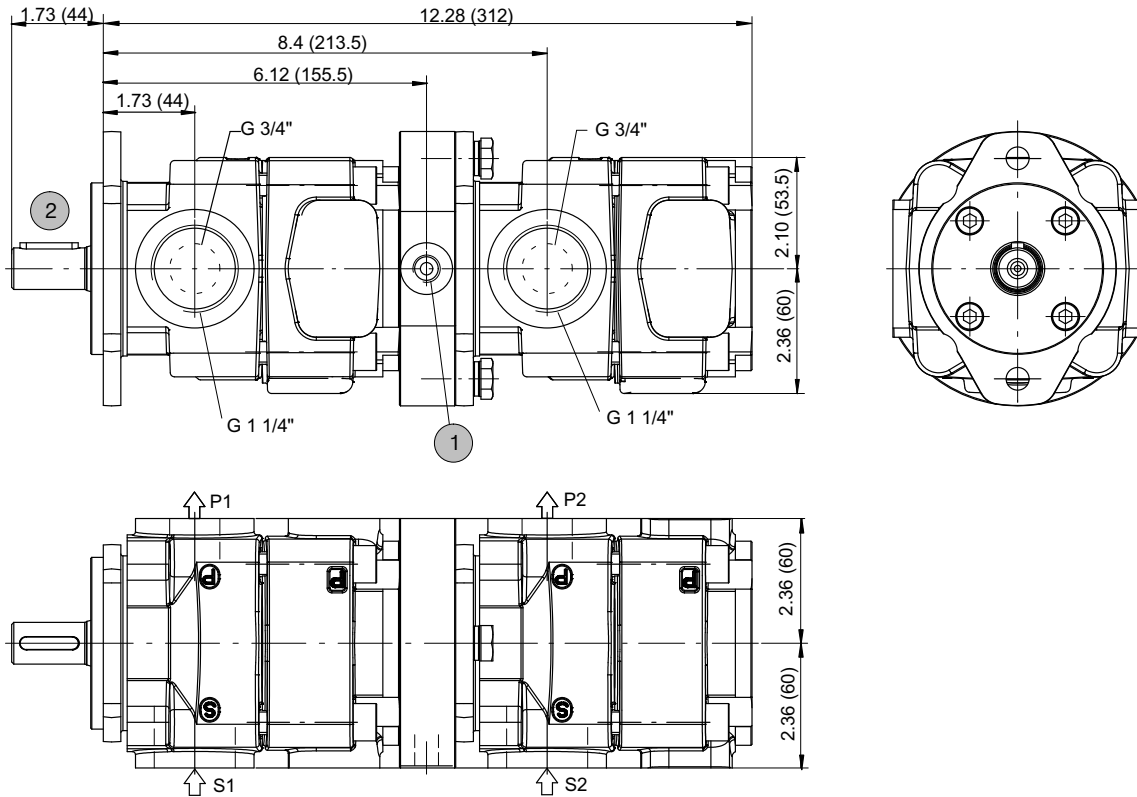
The larger pump of a combination is located on the shaft-end side (the drive side) and is referred to as pump 1. Where both pumps have the same frame size, the pump with the larger displacement is on the drive side. Combinations are available with the same frame size and with the next-larger/smaller size (see Section 5.1). The relevant dimension pages for the combinations can be found in Section 5.2.

5.1 Selection table

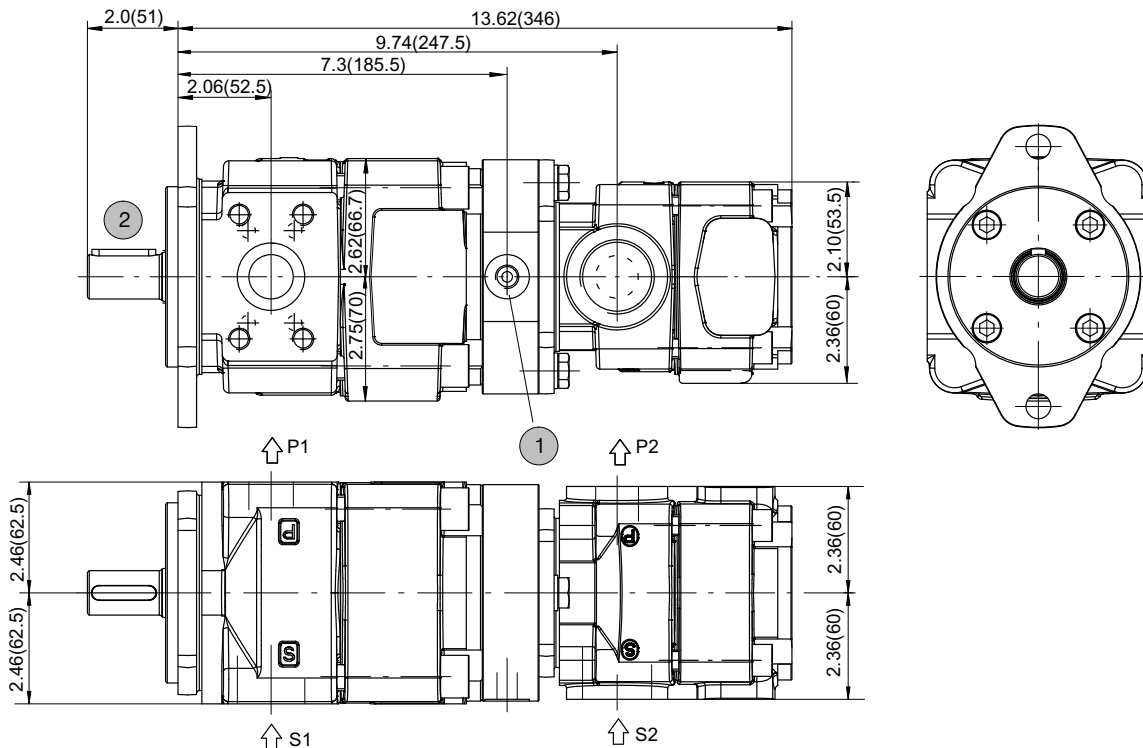
		Pump 2															
		Size															
		QXEH32			QXEH42			QXEH52			QXEH62			QXEH82			
		Displacement [in ³ /rev] (cm ³ /U)															
		0.61 (10)	0.73 (12)	0.97 (16)	1.22 (20)	1.52 (25)	1.95 (32)	2.44 (40)	3.05 (50)	3.84 (63)	4.88 (80)	6.10 (100)	7.62 (125)	9.76 (160)	12.2 (200)	15.25 (250)	
Pump 1	Maximum admissible torque [lbs in] at the drive end	1682 lbs in	QXEH32														
		3098 lbs in	QXEH42														
		6638 lbs in	QXEH52														
	12126 lbs in	QXEH82															
		23897 lbs in	QXEH82														
			Displacement [in ³ /rev] (cm ³ /U)														
			0.61 (10)	X													
			0.73 (12)	X	X												
			0.97 (16)	X	X	X											
			1.22 (20)	X	X	X	X										
			1.52 (25)	X	X	X	X	X									
			1.95 (32)	X	X	X	X	X									
			2.44 (40)				X	X	X	X							
			3.05 (50)				X	X	X	X	X						
			3.84 (63)				X	X	X	X	X	X					
		4.88 (80)							X	X	X	X					
		6.10 (100)							X	X	X	X	X				
		7.62 (125)							X	X	X	X	X	X			
		9.76 (160)									X	X	X	X			
		12.2 (200)									X	X	X	X	X		
		15.2 (250)									X	X	X	X	X	X	

5.2 Dimensions in inch (mm)

5.2.1 QXEH32-.../32-...

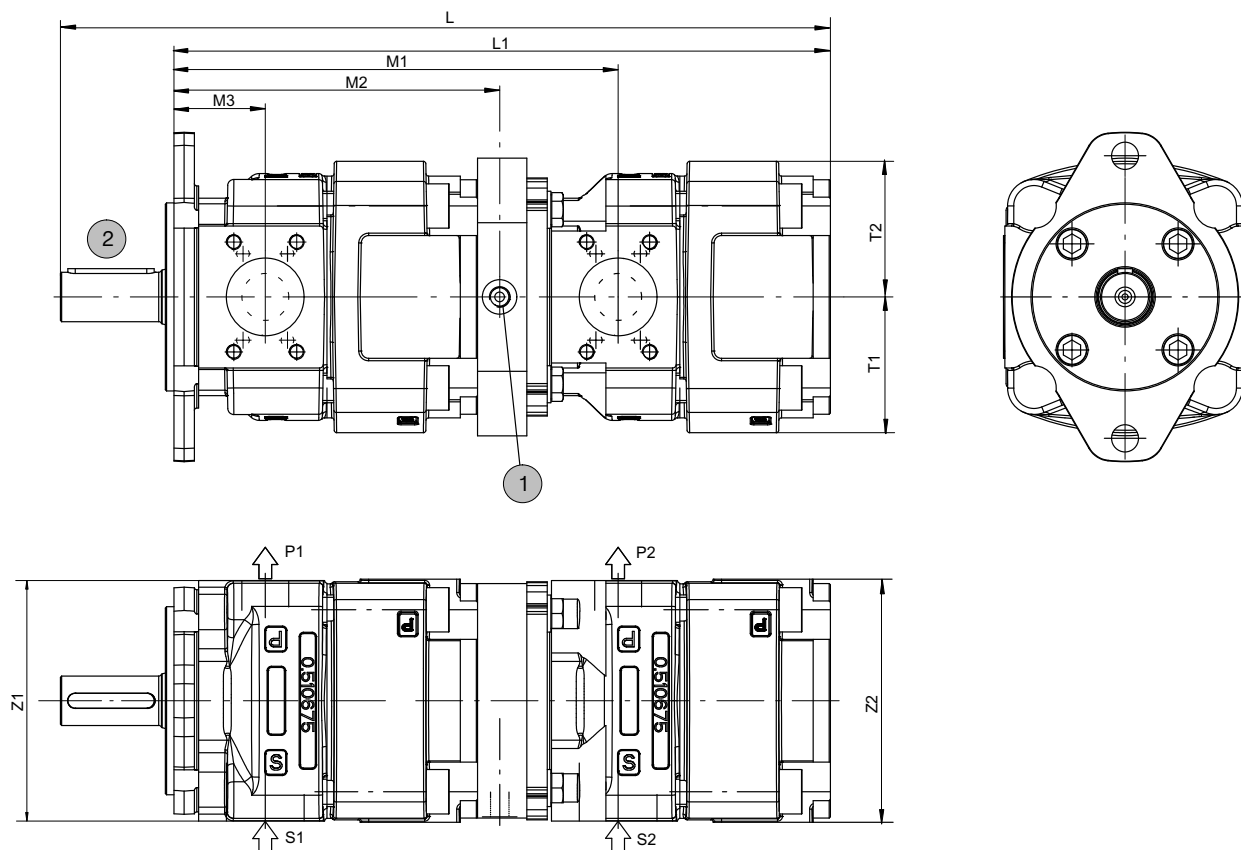


5.2.2 QXEH42-.../32-...



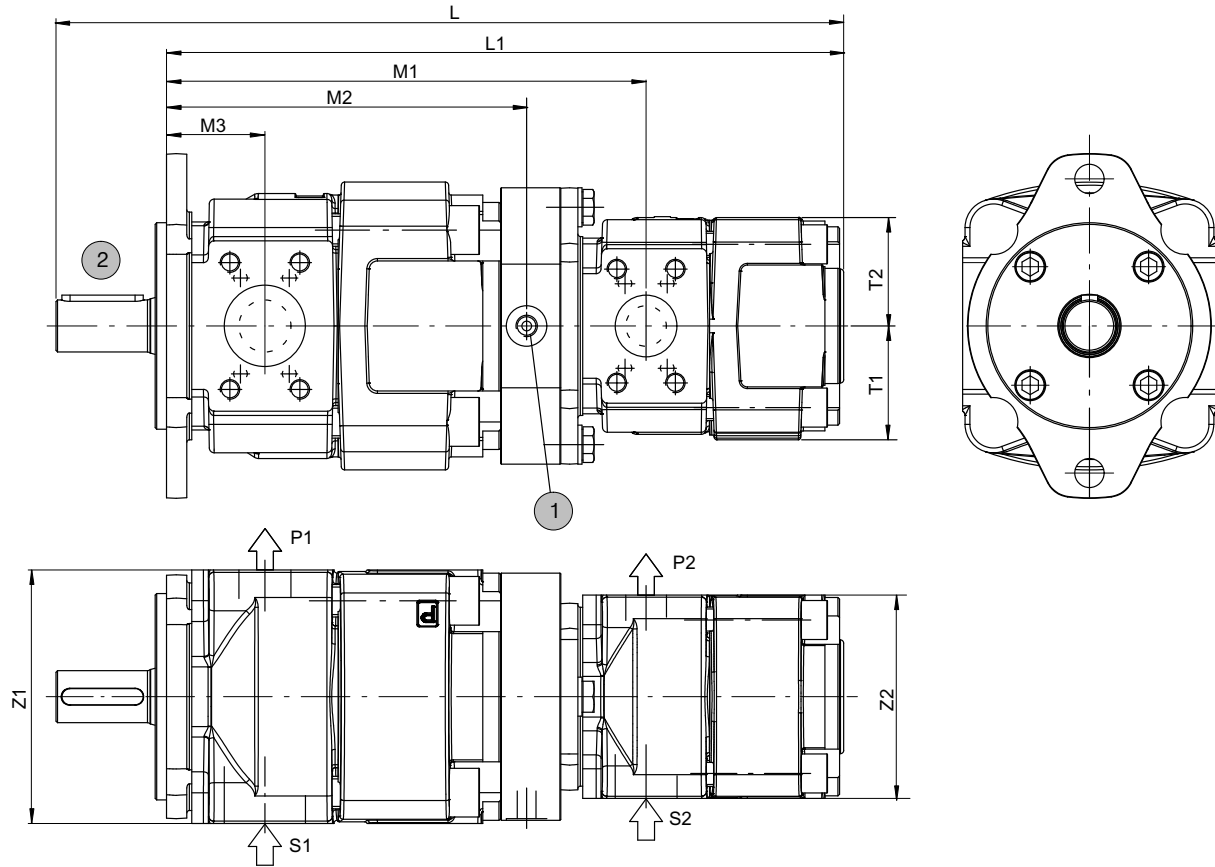
1	external drain port G $\frac{3}{4}$ "	2	shaft and mounting dimensions see section 4
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5.2.3 QXEH42-...//42-...
QXEH52-...//52-...
QXEH62-...//62-...
QXEH82-...//82-...



1 external drain port		2 shaft and mounting dimensions see section 4											
Type	L	L1	M1	M2	M3	T1	T2	Z1	Z2	S1	S2	P1	P2
QXEH42//42	17.14 (435.5)	15.13 (384.5)	10.35 (263)	7.5 (190.5)	2.06 (52.5)	2.75 (70)	2.62 (66.7)	4.92 (125)	4.92 (125)	SAE1½"	SAE1½"	SAE1"	SAE1"
QXEH52//52	20.41 (518.5)	17.73 (450.5)	11.9 (302.5)	8.81 (224)	2.38 (60.5)	3.48 (88.5)	3.48 (88.5)	6.14 (156)	6.14 (156)	SAE2"	SAE2"	SAE1¼"	SAE1¼"
QXEH62//62	24.56 (624)	20.94 (532)	14.17 (360)	10.39 (264)	2.91 (74)	4.33 (110)	4.33 (110)	7.67 (195)	7.67 (195)	SAE2½"	SAE2½"	SAE1½"	SAE1½"
QXEH82//82	31.16 (791.5)	26.35 (669.5)	17.65 (448.5)	13.11 (333)	3.54 (90)	5.41 (137.5)	5.41 (137.5)	9.84 (250)	9.84 (250)	SAE3"	SAE3"	SAE2"	SAE2"

5.2.4 QXEH52-...//42-...
QXEH62-...//52-...
QXEH82-...//62-...



		1 external drain port					2 shaft and mounting dimensions see section 4						
Type	L	L1	M1	M2	M3	T1	T2	Z1	Z2	S1	S2	P1	P2
QXEH52//42	19.07 (484.5)	16.39 (416.5)	11.61 (295)	8.72 (221.5)	2.38 (60.5)	2.75 (70)	2.62 (66.7)	6.14 (156)	4.92 (125)	SAE 2"	SAE1½"	SAE1¼"	SAE1"
QXEH62//52	23.07 (586)	19.44 (494)	13.62 (346)	10.47 (266)	2.91 (74)	4.33 (110)	4.33 (110)	7.75 (197)	6.14 (156)	SAE2½"	SAE2"	SAE1½"	SAE1¼"
QXEH82//62	28.36 (720.5)	23.56 (598.5)	16.79 (426.5)	13.03 (331)	3.54 (90)	4.33 (110)	4.33 (110)	9.84 (250)	7.75 (197)	SAE3"	SAE2½"	SAE2"	SAE1½"

5.3 Ordering code

		QXEH	42	-	025	//	32	-	016	R	06	-ME
Pump 1:												
Series	=	QXEH										
Size	=	32 / 42 / 52 / 62 / 82										
Displacement [cm ³ /rev]	=	10.0 ... 247.7										
Pump 2:												
Size	=	32 / 42 / 52 / 62 / 82										
Displacement [cm ³ /rev]	=	10.0 ... 247.7										
Rotation (viewed from shaft end)												
right (CW)	=	R (standard)										
Option (see section 5.3.3)												
Multiple unit												

5.3.1 Ordering example:

Required: double pump

Pump 1

Displacement: 25 cm³/U
 Continuous pressure: 250 bar
 Type: QXEH42-025

Pump 2

Displacement : 16 cm³/U
 Continuous pressure: 250 bar
 Type: QXEH32-016

For use with mineral oil

Ordering code: QXEH42-025//32-016R06-ME

5.3.2 Standard configuration

- direction of rotation - right (CW)
- 2-hole mounting flange to ISO 3019/1 (SAE): sizes QXEH 3-6
- 2-hole mounting flange to ISO 3019/2 (Metr.): size QXEH 8
- nitrile seals
- parallel shaft end to ISO R775
- black priming RAL 9004, flange without priming
- external drain port (option 06)
 - QXEH 3-5 = G¹/₄"
 - QXEH 6 = G³/₈"
 - QXEH 8 = G¹/₂"

5.3.3 Options

- O = pump without priming
- 18 = FKM (Viton) seals
pump without priming
- 11-6 = shaft end with spline shaft
SAE ANSI B92.1, ISO 3019-1
- 29-6 = for HFB and HFC fluids,
pump without priming

Further options on request.

6 Fluid

The oil for QXEH products must have a minimum cleanliness level of 20/18/15 to ISO 4406.

We recommend the use of fluids that contain anti-wear additives for operation with boundary lubrication. Fluids without appropriate additives reduce the service life of pumps and motors. The user is responsible for maintaining, and regularly checking the fluid quality. Bucher Hydraulics recommends a Brugger EN/DIN 51347 load capacity ≥ 30 N/mm². This is particularly important in applications with variable-speed drives and speeds < 1000 rpm.

7 Operational reliability

To guarantee the reliable operation and a long service life of the QXEH, a maintenance schedule must be prepared for the power unit, machine or system. The maintenance schedule must make sure that the provided or permissible operating conditions of the pump are adhered to over the period of use.

In particular, compliance with the following operating parameters must be ensured:

- The required oil cleanliness
- The operating temperature range
- The fluid level

Moreover, the pump and the system must be inspected at regular intervals for changes in the following parameters:

- Vibration
- Noise
- Differential temperature of pump – fluid in the tank
- Foaming in the tank
- Freedom from leakage

Changes in these parameters indicate wear of components (e.g. drive motor, coupling, pump, etc.). The cause must be immediately pinpointed and eliminated.

To provide high operational reliability of the QXEH in the machine or system, we recommend continuous, automatic checks of the above parameters and an automatic shut-down in the case of changes that exceed the usual fluctuations within the provided operating range.

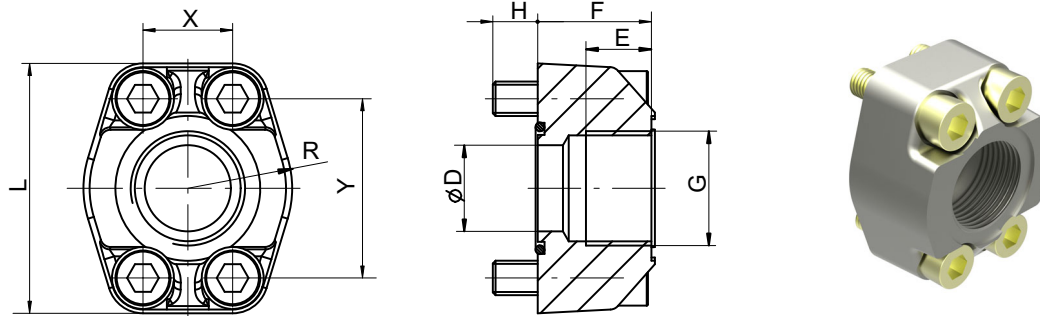
8 Note

This catalogue is intended for users with specialist knowledge. The user must check the suitability of the equipment described herein in order to ensure that all of the conditions necessary for the safety and proper functioning of the system are fulfilled. If you have any doubts or questions concerning the use of these pumps, please consult Bucher Hydraulics.

9 Accessories

9.1 Pipe flanges - high pressure type (thread flange)

Dimensions in inch



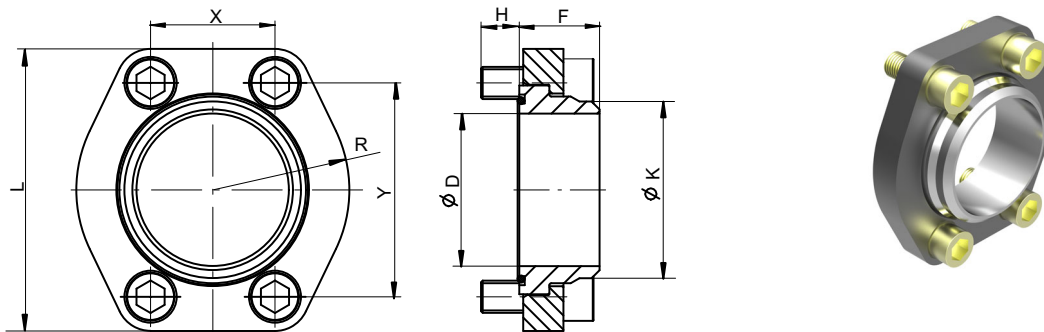
- max. operating pressure 6092 PSI (420 bar)
- flange size SAE J518 code 61 / ISO 6162-1
- possible for frame size 4-8

Threaded pipe flanges are spot-faced for DIN 2353 pipe fittings.
Material: ST37 for FKM (Viton) seals contact Bucher Hydraulics.

Ordering-number	Ordering code	Size	DØ	E	F	H	L	R	X	Y	Viton seal 90 Shore 'A'	Retaining screws DIN912-12.9 tightening torque lbs in	
100037000	RF 01-R08	G½"	0.49	0.63	1.06	0.51	2.12	0.90	0.68	1.49	0.797x0.103	M8x30	266
100037010	RF 02-R10	G¾"	0.78	0.70	1.18	0.47	2.55	1.02	0.87	1.87	1.049x0.103	M10x30	531
100037020	RF 03-R11	G1"	0.98	0.78	1.33	0.51	2.75	1.14	1.03	2.06	1.299x0.103	M10x35	531
100037030	RF 04-R12	G1¼"	1.26	0.86	1.49	0.55	3.15	1.41	1.18	2.30	1.609x0.139	M10x40	531
100037040	RF 05-R13	G1½"	1.49	0.94	1.61	0.74	3.70	1.61	1.40	2.75	1.734x0.139	M12x45	1062
100037050	RF 06-R14	G2"	1.96	1.02	1.77	0.78	4.01	1.89	1.68	3.06	2.359x0.139	M12x50	1062

9.2 Pipe flanges - low pressure type (welding flange)

Dimensions in inch



- max. operating pressure 232 PSI (16 bar)
- flange size SAE J518 code 61 / ISO 6162-1
- possible for frame size 6 and 8

Material: HST37 for FKM (Viton) seals contact Bucher Hydraulics)

Part number	Ordering code	SAE Size	D	K	F	H	L	R	X	Y	O-ring 90 Shore 'A'	Retaining screws DIN 912-8.8 tightening torque lbs in		Pipe ¹⁾ outside diameter approx.
062450	RN 07-S	2½"	2.48	2.95	1.37	0.55	4.72	2.24	2.00	3.50	2.734x0.139	M12 x 30	620	2.95
063880	RN 08-S	3"	2.99	3.46			5.53	2.67	2.44	4.19	3.359x0.139	M16 x 40	1593	3.46

1) For connection pipes, we recommend the use of seamless precision steel tube to DIN 2391 with a wall thickness of 0.23 in (6 mm) max.

9.3 Bolt-on valves - SAE J518 code 61 / ISO 6162-1 pattern

IMPORTANT: Bolt-On valves are available for size 3 and 4.
For detailed informations on Bolt-on valves see www.bucherhydraulics.com

Pressure relief valve A S DF	Pressure relief valve solenoid control A S DA	Accumulator charging valve AGSF
Technical data sheet 100-P-000123	Technical data sheet 100-P-000119	Technical data sheet 100-P-0000124

9.3.1 Examples for Bolt-on valves, mounted on QX Internal Gear Pumps

Bolt-on valve with threaded ports AGDF	Bolt-on valves with pipe flanges SAE ¹⁾ ASDF+RF	Bolt-on valve with pipe flanges SAE + RVSAE ²⁾ ASDF+RF+RVSAE+DPSAE+ZPSAE

1) Pipe flange see section 9.1 and 9.2.

2) Please ask Bucher Hydraulics GmbH for check valves.

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