

XLH and XLS spool valve motor series

XLH and XLS specifications overview

XLH motor specifications

Parameter	Data
Gerotor element	11 displacements
Flow l/min [US gal/min]	60 [15.8] continuous 75 [19.8] intermittent
Speed	1117 rpm continuous 1400 rpm intermittent
Δ Pressure bar [psi]	140 [2030] continuous 175 [2540] intermittent
Torque N·m [in·lbs]	404 [3576] continuous 549 [4859] intermittent

XLS motor specifications

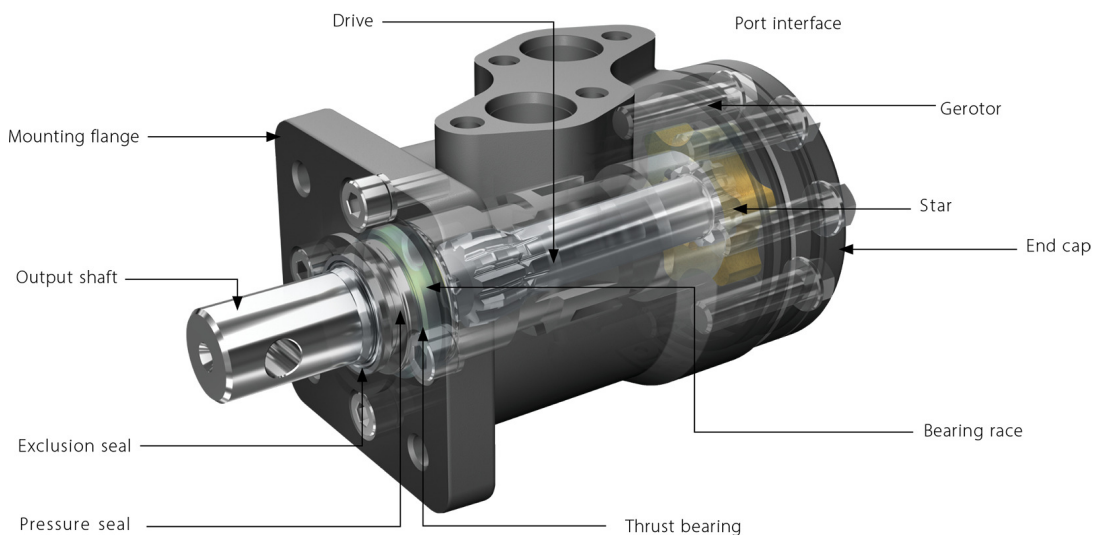
Parameter	Data
Gerotor element	9 displacements
Flow l/min [US gal/min]	61 [16.1] continuous 75 [19.8] intermittent
Speed	1037 continuous 1193 intermittent
Δ Pressure bar [psi]	175 [2538] continuous 207 [3002] intermittent
Torque N·m [in·lbs]	580 [5133] continuous 673 [5957] intermittent

Continuous motor may run continuously at the listed ratings

Intermittent 10% of every minute

XLH series

XLH part identification



XLH and XLS spool valve motor series

XLH technical data

XLH 50cc-160cc technical data

Motor size		053	063	080	100	125	160
Geometric Displacement cm ³ /r [in ³ /r]		53,0 [3.23]	64,3 [3.92]	79.4 [4.85]	98,3 [6.00]	121,0 [7.38]	158,9 [9.70]
Flow l/min [US gal/min]	Continuous	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]
	Intermittent	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
Max speed rpm	Continuous	1117	926	751	610	495	375
	Intermittent	1400	1158	940	760	620	470
Pressure Δ bar [psi]	Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Intermittent	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
Torque* N·m [in·lbs]	Continuous	105 [930]	122 [1080]	152 [1345]	184 [1680]	228 [2018]	295 [2611]
	Intermittent	128 [1135]	150 [1328]	190 [1680]	232 [2053]	290 [2565]	371 [3284]
Weight kg [lbs]		5,0 [11.0]	5.3 [11.6]	5.5 [12.1]	6.1 [13.4]	6.2 [13.6]	6.4 [14.1]

* See shaft torque ratings for limitations.

XLH 200cc-485cc technical data

		200	245	315	390	485
Geometric Displacement cm ³ /r [in ³ /r]		196,7 [12.00]	242,1 [14.77]	317,7 [19.39]	393,4 [24.01]	484,0 [29.54]
Flow l/min [US gal/min]	Continuous	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]
	Intermittent	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
Max speed rpm	Continuous	306	248	189	153	124
	Intermittent	383	310	237	191	156
Pressure Δ bar [psi]	Continuous	140 [2030]	110 [1595]	90 [1305]	75 [1090]	60 [870]
	Intermittent	175 [2540]	140 [2030]	120 [1740]	95 [1380]	90 [1305]
Torque* N·m [in·lbs]	Continuous	366 [3239]	351 [3107]	377 [3337]	387 [3425]	404 [3576]
	Intermittent	458 [4054]	444 [3930]	497 [4399]	487 [4310]	549 [4859]
Weight kg [lbs]		6,7 [14.7]	7,1 [15.6]	7,4 [16.3]	7,7 [16.9]	8,0 [17.6]

* See shaft torque ratings for limitations.

Δ bar [psi] The true pressure difference between inlet port and outlet port.

Continuous rating Motor may be run continuously at these ratings.


Intermittent operation 10% of every minute.

For maximum case pressure, see the case pressure seal limitation graph.

[A simultaneous maximum torque and maximum speed is not recommended. To ensure best motor life, run motor for approximately 1 hour at 30% of rated pressure before application to full load. Be sure motor is filled with fluid prior to any load applications.](#)

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Recommended operating parameters

Data	Recommended
Max. inlet pressure	225 bar [3265 psi]  Caution <hr/> <u>Do not exceed Δ pressure rating</u>
Fluids	Premium quality, anti-wear type hydraulic oil with a viscosity of no less than 20-32 cSt at operating temperature.
Operating temperature	82 °C [180 °F]
Filtration	Per ISO cleanliness code 4406:20/18/13

XLH and XLS spool valve motor series

XLH product numbers

Design specifications

Flange	Sideport offset 2-hole oval mounting flange - A2 flange	
Specification	Ref. A1	Ref. A2
Flange pilot diameter	Ø 82.5 mm [3.25 in]	
Flange bolt diameter	Ø 106.4 mm [4.20 in]	
Shaft	Cyl. Ø25 mm (10)	6B splined 1 in (07)
Main port	G 1/2	G 1/2
Drain port	G 1/4	G 1/4
Check valve	No	No
Shaft seal	High pressure shaft seal	
Paint	Painted black	

Product numbers

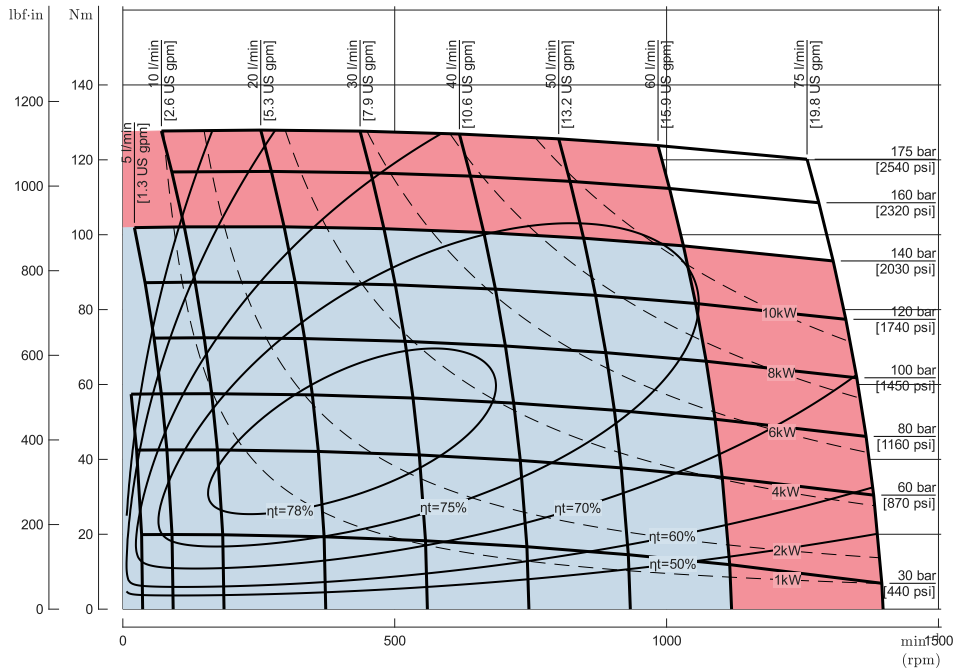
Displacement	Ref. A1	Ref. A2
53cc	016-0543-003	016-0531-003
63cc	016-0544-003	016-0532-003
80cc	016-0545-003	016-0533-003
100cc	016-0546-003	016-0534-003
125cc	016-0547-003	016-0535-003
160cc	016-0548-003	016-0536-003
200cc	016-0549-003	016-0537-003
245cc	016-0550-003	016-0538-003
315cc	016-0551-003	016-0539-003
390cc	016-0552-003	016-0540-003
485cc	016-0553-003	016-0541-003

XLH and XLS spool valve motor series

XLH series performance data

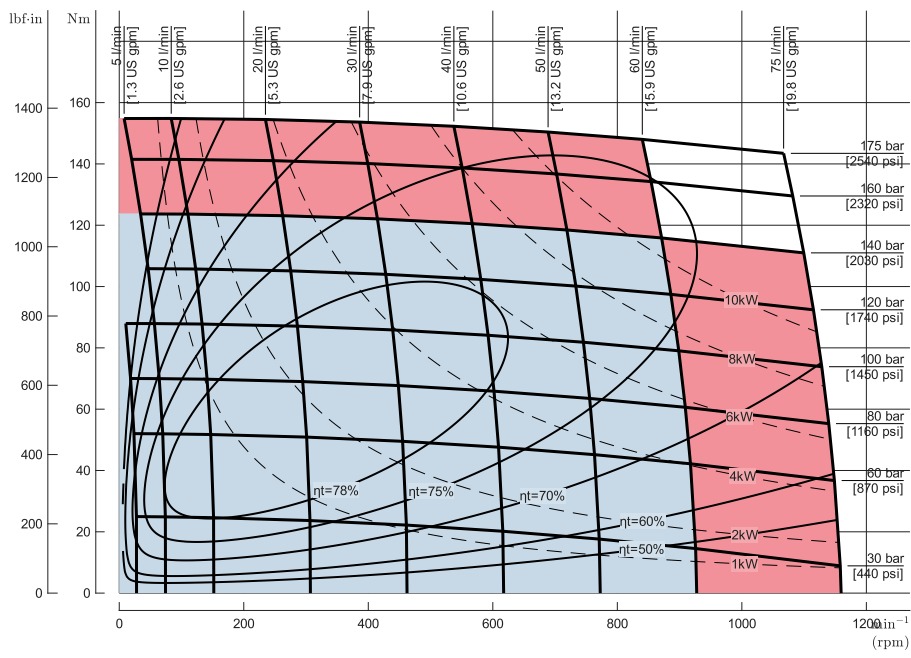
Performance data is typical at 25 cSt (12 SUS). Actual data may vary slightly from unit to unit in production.

XLH motor 053cc



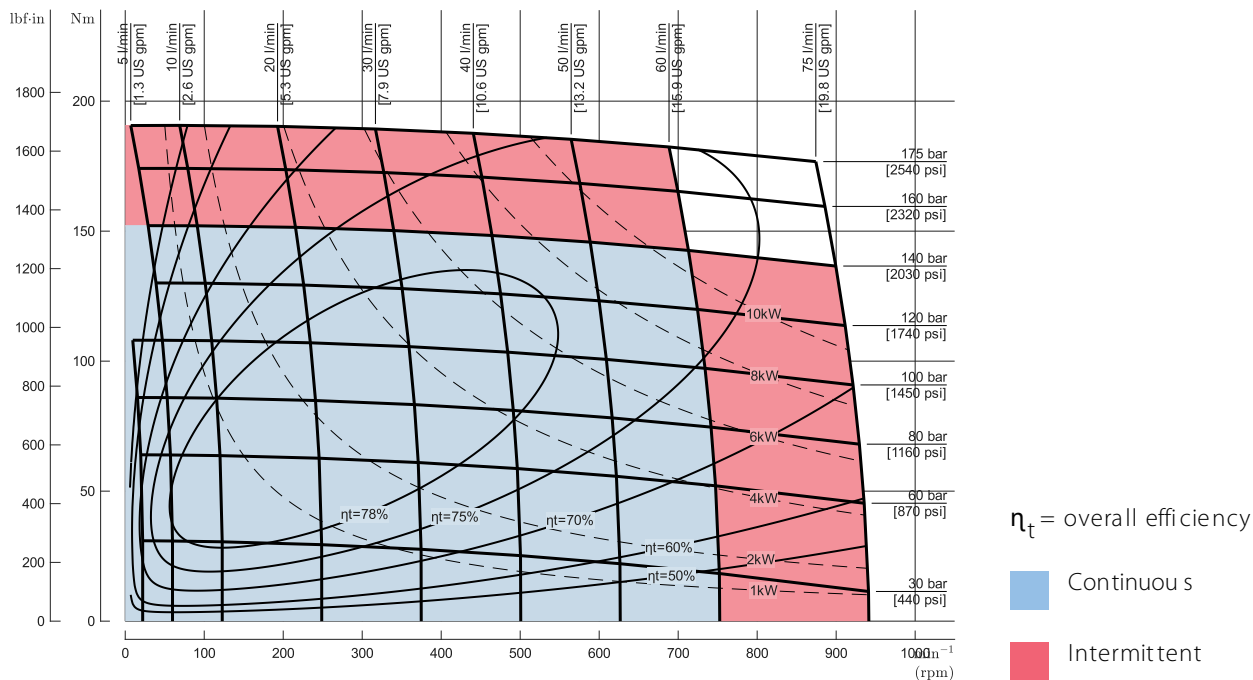
η_t = overall efficiency
■ Continuous
■ Intermittent

XLH motor 063cc

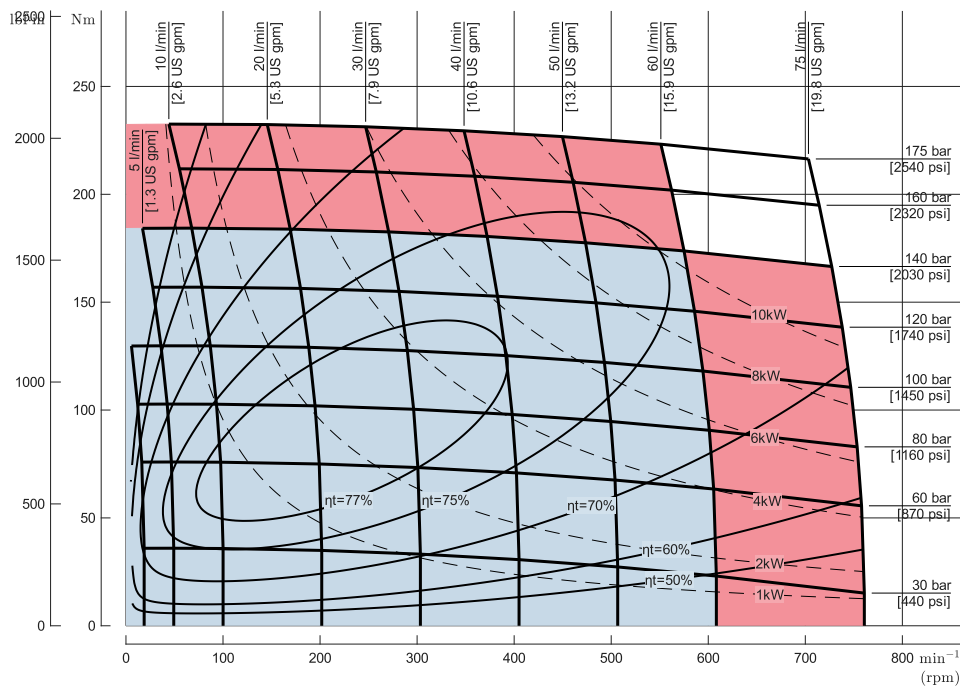


XLH and XLS spool valve motor series

XLH motor 080cc

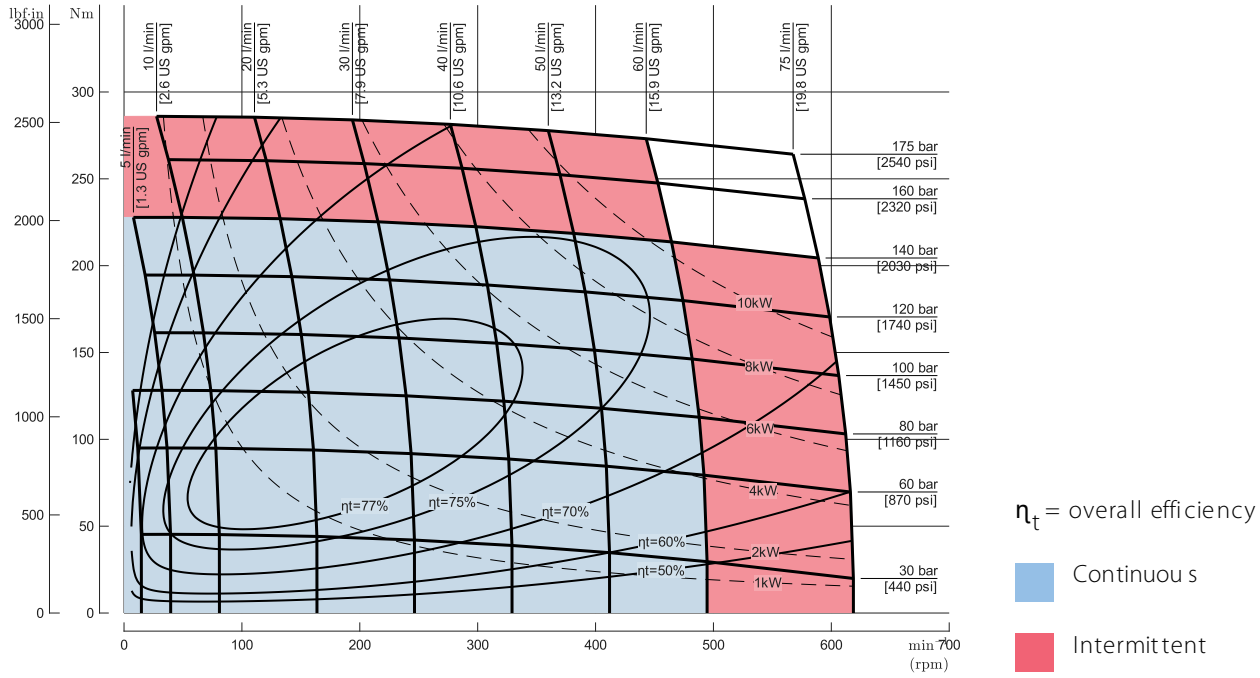


XLH motor 100cc

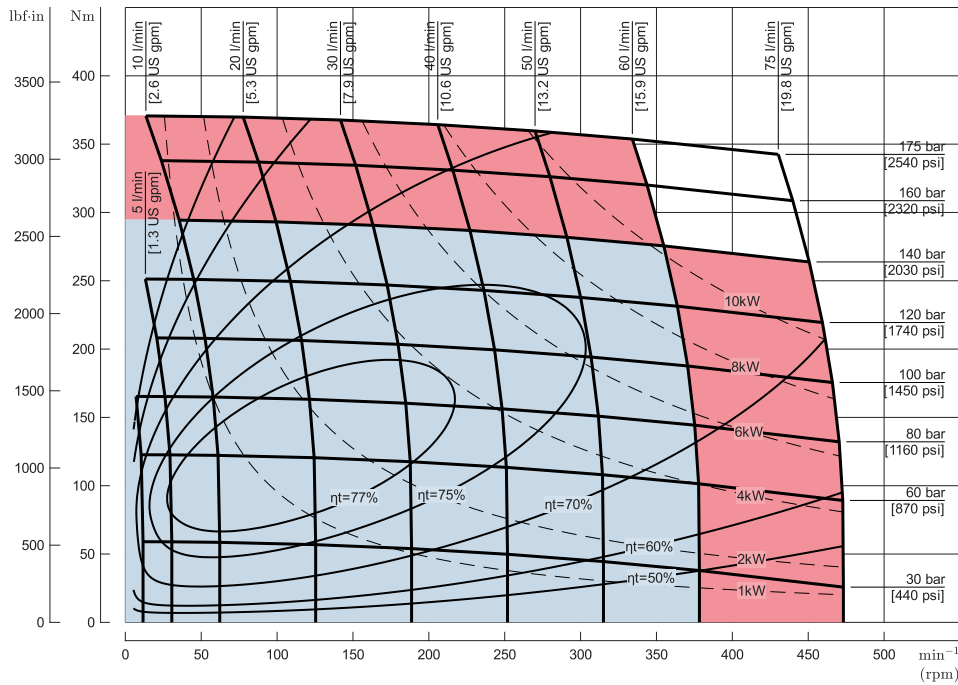


XLH and XLS spool valve motor series

XLH motor 125cc

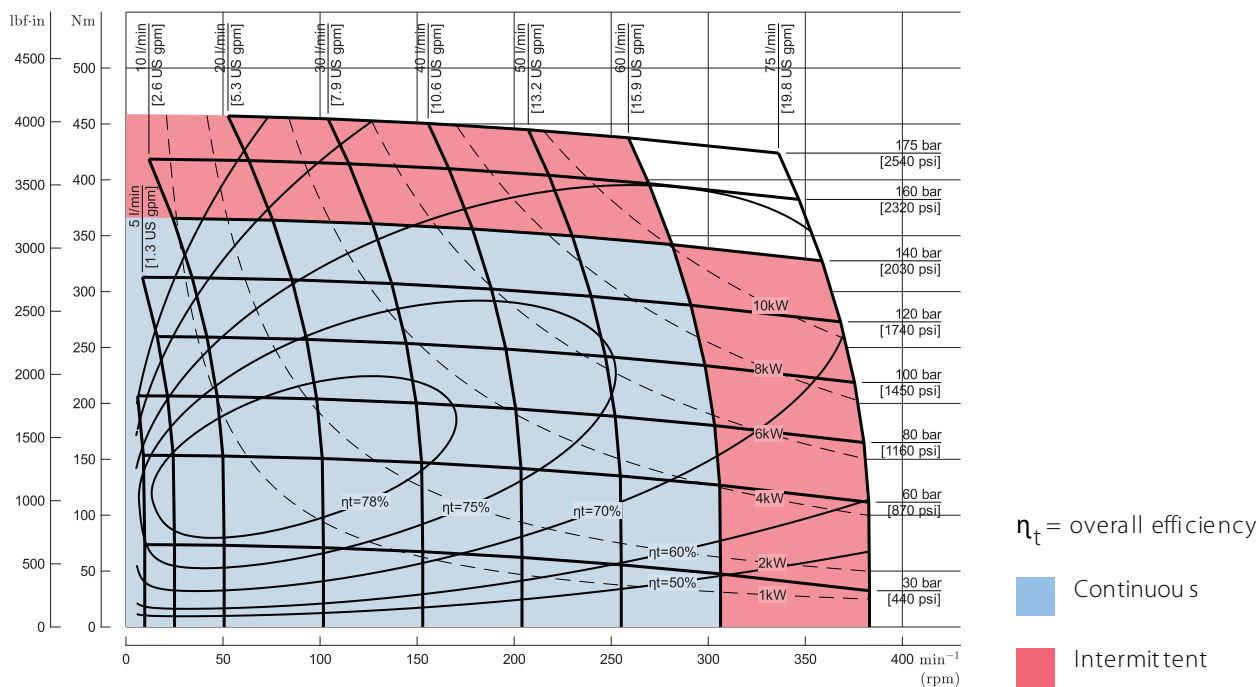


XLH motor 160cc

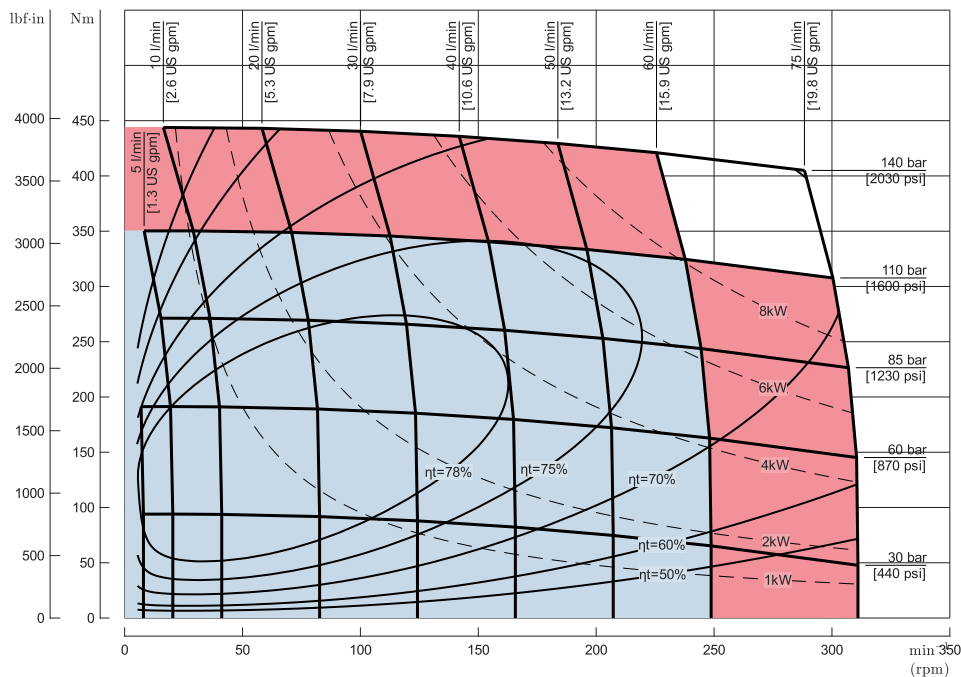


XLH and XLS spool valve motor series

XLH motor 200cc

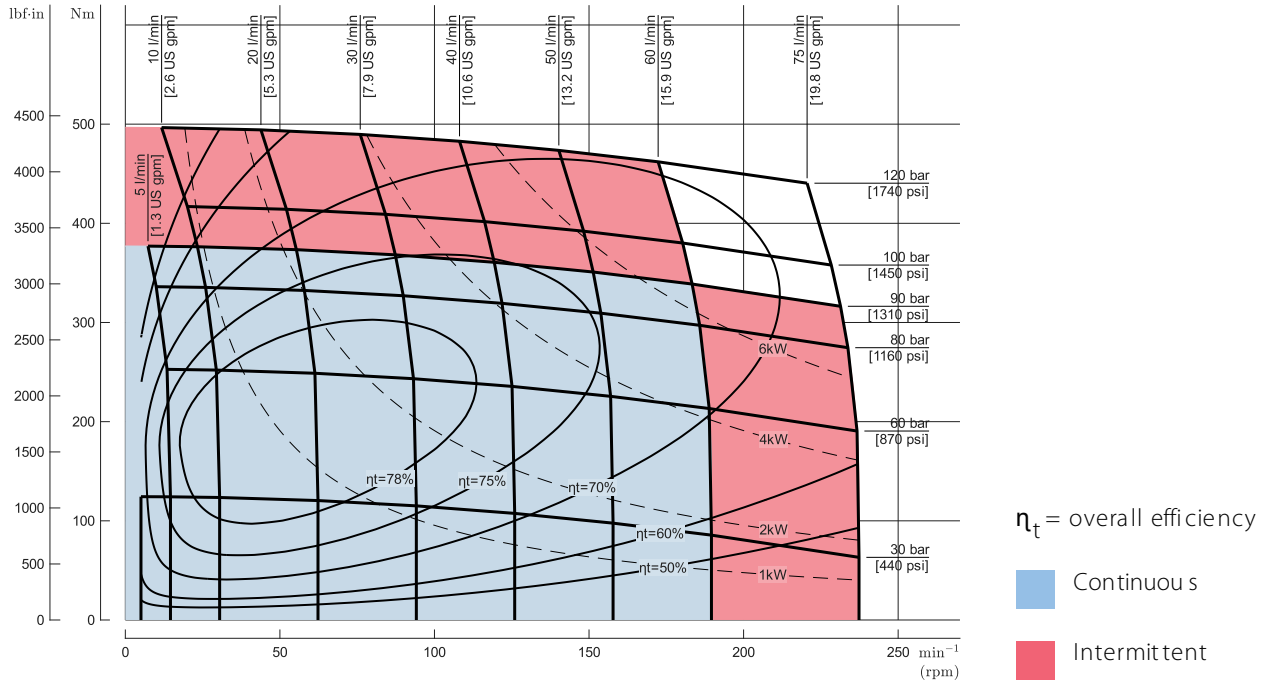


XLH motor 245cc

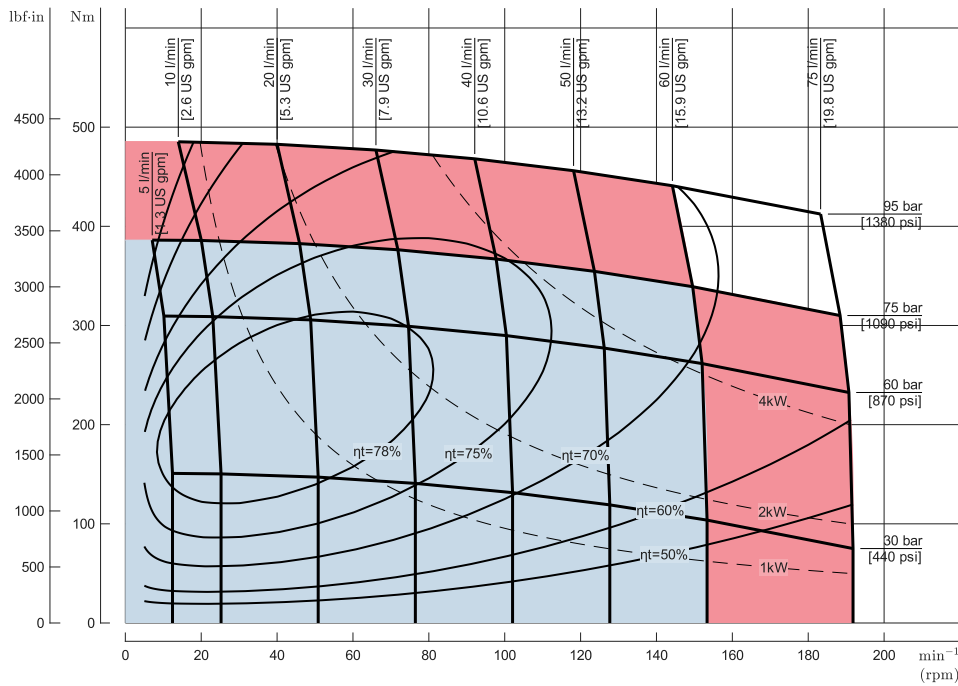


XLH and XLS spool valve motor series

XLH motor 315cc

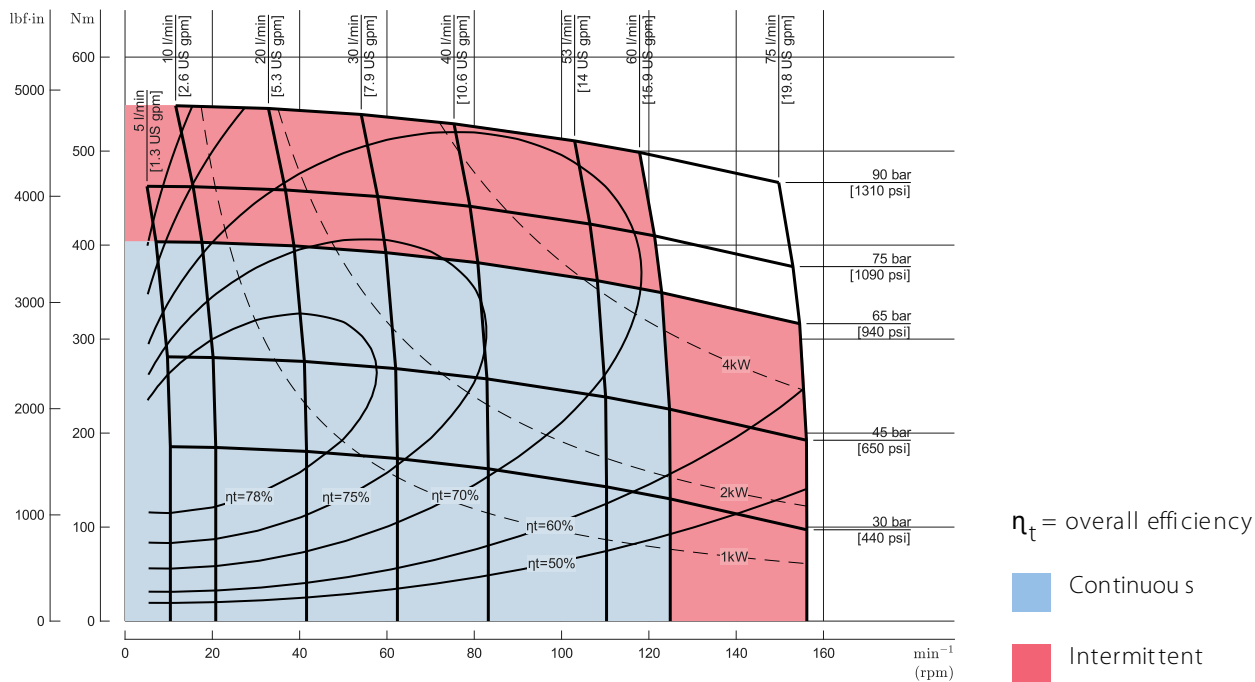


XLH motor 390cc



XLH and XLS spool valve motor series

XLH motor 485cc

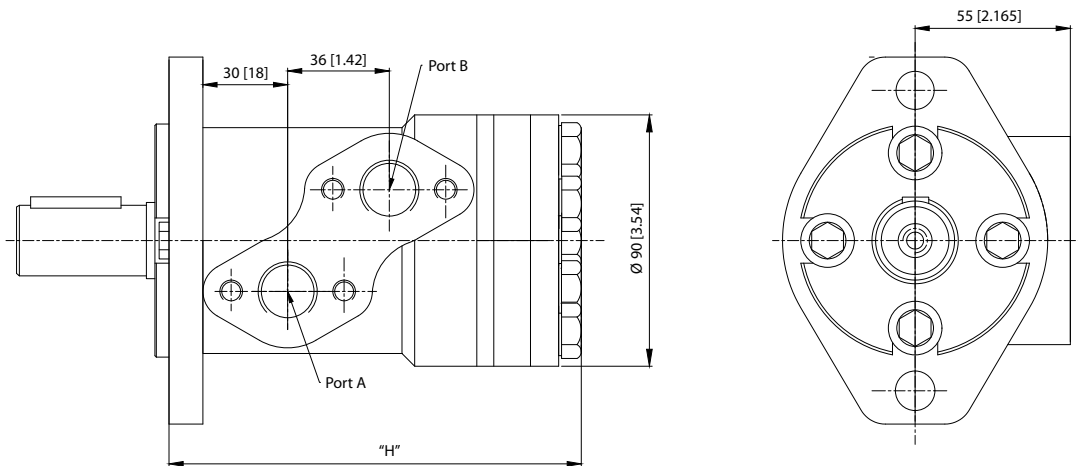


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XLH dimensions

Standard rotation viewed from shaft end

- Port A pressurized – CW
- Port B pressurized – CCW
- XLH standard shaft seal and section seal kit number: Z331-23
- XLH high pressure shaft seal and section seal kit number: Z331-41



Dimension "H"

Displacement cm ³ /r [in ³ /r]	"H" mm [in]
53 [3.1]	144 [5.67]
63 [3.8]	146 [5.74]
80 [4.9]	148 [5.82]
100 [6.2]	150 [5.91]
125 [7.6]	153 [6.02]
160 [9.6]	158 [6.22]
200 [12.2]	163 [6.42]
245 [14.9]	169 [6.65]
315 [19.2]	179 [7.05]
390 [23.8]	189 [7.44]
485 [30.0]	201 [7.91]

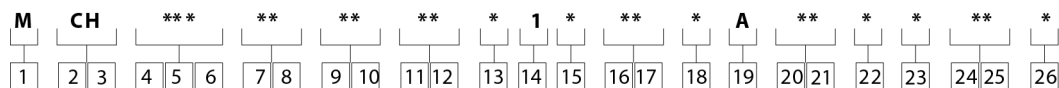
Data is based on mounting flange SAE A.

XLH and XLS spool valve motor series

XLH model code

The reference number in the model code corresponds with the product components.

Model code identification



XLH product, series, displacement options

1 - product

Code	Description
M	Motor

2, 3 - series

Code	Description
CH	XLH series

3, 4, 5 - displacement cm^3/r [in^3/r]

Code	Description
053	53 [3.2]
063	63 [3.8]
080	80 [4.9]
100	100 [6.2]
125	125 [7.6]
160	160 [9.6]
200	200 [12.2]
245	245 [14.9]
315	315 [19.2]
390	390 [23.8]
485	485 [30.0]

XLH mounting flange and output shaft options

7, 8 - mounting flange

Code	Description
AA	2 bolt standard, SAE A, 82.55 x 5 pilot, pilot 2-13.5 dia. mounting holes on 106.4 dia.
AC	2 bolt standard, 82.55 x 2.8 pilot, 2-13.5 dia. mounting holes on 106.4 dia.
AD	4 bolt standard, 44.40 dia. x 2.8 pilot, 0.375-16 UNC-2B, mounting holes on 82.55 dia. B.C.
AE	4 bolt standard, 44.40 dia. x 2.8 pilot, M10x1 .5-6H mounting holes on 82.55 dia. B.C.
AJ	2 bolt standard, SAE A, 82.55 x 5 pilot continuous 2-13.5 dia. mounting holes on 106.4 dia.

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9, 10 - output shaft

Code	Description
03	25.4 dia. straight, parallel key $\frac{1}{4} \times \frac{1}{4} \times 1\frac{1}{4}$, M8 hole in shaft end, BS46
04	25.4 dia. splined shaft, SAE 6B, .250-20 UNC-2B hole in the shaft end
05	25.4 dia. straight, parallel key, .250-20 UNC 2B hole in the shaft end
07	25.4 dia. splined shaft, SAE 6B, M8 X 1.25-6H thread in shaft end Extended length (54 mm from flange)
08	25.4 dia. straight, 10.3 [.405] dia. cross hole 15.7 [.618] from .250-20 UNC-2B hole in the shaft end
10	25 dia. straight, 5mm extra length parallel key A8 x 7 x 32, M8 thread in shaft end. Extended length (54 mm from flange)

Main ports, case drain, gerotor options

11, 12 - main ports

Code	Description
AA	Staggered port 2-G1/2 ISO228/1 Manifold ports (4 x M8 mounting holes)
AE	Staggered port 2-0 .875-14 UNF-2B O-ring or manifold ports (4-M 8-6H mounting holes)

13 - case drain

Code	Description
0	None
1	G1/4 ISO228/1
3	0.4375-20 UNF-2B

14 - gerotor

Code	Description
1	Standard gerotor

Shaft, seal, speed sensor, manifold options

15 - shaft

Code	Description
0	Standard shaft

16, 17 - shaft seal

Code	Description
00	Standard seals
02	High pressure shaft seal
03	High pressure shaft seal and seal guard

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18 - speed sensor

Code	Description
0	None

19 - manifold block

Code	Description
A	None

Special features, assembly, identification options

20, 21 - special features

Code	Description
00	None

22 - special assembly instructions

Code	Description
0	None
1	Reverse rotation

23 - paint

Code	Description
C	Black primer

24, 25 - customer identification or nameplate

Code	Description
00	None

26 - design code

Code	Description
C	Third