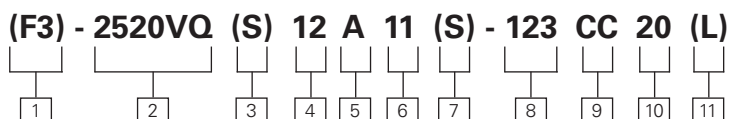


Double Pump Operating Specifications

Model Series	Shaft End Pump						Cover End Pump						Wt. kg (lb.)
	Delivery USgpm @ 1200 r/min 7 bar (100 psi)	Displ. cm ³ /r (in ³ /r)	Max. r/min	Max. bar (psi)	Typical del. L/min (USgpm) @ max. speed & pressure	Typical input kW (hp) @ max. speed & pressure	Delivery USgpm @ 1200 r/min 7 bar (100 psi)	Displ. cm ³ /r (in ³ /r)	Max. r/min	Max. bar (psi)	Typical del. L/min (USgpm) @ max. speed & pressure	Typical input kW (hp) @ max. speed & pressure	
2520VQ	12	40,2 (2.45)	2700	210 (3000)	88,5 (23)	41,0 (55)	5	18,0 (1.10)	2700	210 (3000)	42,3 (11)	17,9 (24)	20,5 (45)
	14	45,4 (2.77)	2700	210 (3000)	103,8 (27)	46,6 (62.5)	8	27,4 (1.67)	2700	210 (3000)	65,4 (17)	26,1 (35)	
	17	55,2 (3.37)	2500	210 (3000)	119,2 (31)	51,8 (69.5)	11	36,4 (2.22)	2700	210 (3000)	88,5 (23)	35,4 (47.5)	
	21	67,7 (4.12)	2500	210 (3000)	146,2 (38)	61,9 (83)	12	39,5 (2.41)	2700	160 (2300)	98,1 (25.5)	28,4 (38)	
3520VQ	25	81,6 (4.98)	2500	210 (3000)	173,1 (45)	75,3 (101)	5	18,0 (1.10)	2500	210 (3000)	38,5 (10)	16,5 (22)	34,0 (75)
	30	97,7 (5.96)	2500	210 (3000)	211,5 (55)	87,7 (117.5)	8	27,4 (1.67)	2500	210 (3000)	61,5 (16)	24,0 (32.5)	
	35	112,8 (6.88)	2400	210 (3000)	230,8 (60)	98,5 (132)	11	36,4 (2.22)	2500	210 (3000)	80,8 (21)	33,0 (44)	
	38	121,6 (7.42)	2400	210 (3000)	250,0 (65)	104,4 (140)	12	39,5 (2.41)	2500	160 (2300)	90,4 (23.5)	26,1 (35)	
3525VQ	25	81,6 (4.98)	2500	210 (3000)	173,1 (45)	75,3 (101)	12	40,2 (2.45)	2500	210 (3000)	79,5 (21)	38,0 (51)	34,5 (76)
	30	97,7 (5.96)	2500	210 (3000)	211,5 (55)	87,7 (117.5)	14	45,4 (2.77)	2500	210 (3000)	91,0 (24)	43,0 (58)	
	35	112,8 (6.88)	2400	210 (3000)	230,8 (60)	98,5 (132)	17	55,2 (3.37)	2500	210 (3000)	119,2 (31)	51,5 (69)	
	38	121,6 (7.42)	2400	210 (3000)	250,0 (65)	104,4 (140)	21	67,5 (4.12)	2500	210 (3000)	146,2 (38)	61,9 (83)	
4520VQ	42	138,7 (8.46)	2200	175 (2500)	255,8 (66.5)	91,4 (122.5)	5	18,0 (1.10)	2200	210 (3000)	32,0 (8.5)	14,5 (19.5)	43,0 (94)
	50	162,3 (9.90)	2200	175 (2500)	303,8 (79)	105,2 (141)	8	27,4 (1.67)	2200	210 (3000)	51,0 (13.5)	21,0 (28.5)	
	60	193,4 (11.80)	2200	175 (2500)	369,2 (96)	126,8 (170)	11	36,4 (2.22)	2200	210 (3000)	68,0 (18)	28,5 (38.5)	
							12	39,5 (2.41)	2200	160 (2300)	77,5 (20.5)	23,0 (31)	
4525VQ	42	138,7 (8.46)	2200	175 (2500)	255,8 (66.5)	91,4 (122.5)	12	40,2 (2.45)	2200	210 (3000)	68,0 (18)	33,0 (44)	46,0 (101)
	50	162,3 (9.90)	2200	175 (2500)	303,8 (79)	105,2 (141)	14	45,4 (2.77)	2200	210 (3000)	79,5 (21)	38,0 (51)	
	60	193,4 (11.80)	2200	175 (2500)	369,2 (96)	126,8 (170)	17	55,2 (3.37)	2200	210 (3000)	100,0 (26.5)	45,5 (61)	
							21	67,5 (4.12)	2200	210 (3000)	125,0 (33)	54,5 (73)	
4535VQ	42	138,7 (8.46)	2200	175 (2500)	255,8 (66.5)	91,4 (122.5)	25	81,6 (4.98)	2200	210 (3000)	145,5 (38.5)	66,5 (89)	53,6 (118)
	50	162,3 (9.90)	2200	175 (2500)	303,8 (79)	105,2 (141)	30	97,7 (5.96)	2200	210 (3000)	178,0 (47)	77,5 (104)	
	60	193,4 (11.80)	2200	175 (2500)	369,2 (96)	126,8 (170)	35	112,8 (6.88)	2200	210 (3000)	211,5 (55)	89,5 (120)	
							38	121,6 (7.42)	2200	210 (3000)	223,0 (59)	97,0 (130)	

Performance constants: SAE 10W fluid @ 82°C (180° F); pump inlet @ 0 PSIG (14.7 PSIA)

Note: Outlet pressure must always be higher than inlet pressure. See page 7 for details.



1 F3 - Viton seals
Omit if not required.

2 Intravane pump series

2520VQ	3525VQ	4525VQ
3520VQ	4520VQ	4535VQ

3 Pilot designation
S – SAE per ISO 3019/1 (SAE J744)
Omit for standard pilot.

4 Geometric displacement shaft end pump

Code = SAE rating (USgpm) at 1200 r/min and 7 bar (100 psi)

Frame Size	Code (USgpm)	cm ³ /r	in ³ /r
2520VQ	12	40,2	2.45
	14	45,4	2.77
	17	55,2	3.37
	21	67,5	4.12
35**VQ	25	81,6	4.98
	30	97,7	5.96
	35	112,8	6.88
	38	121,6	7.42
45**VQ	42	138,7	8.46
	50	162,3	9.90
	60	193,4	11.80

Note: For options other than listed in the model code, i.e. shafts, ports, displacements and mountings, contact your Vickers representative.

5 Port connections

Pump series	Code	Inlet	Outlet no. 1	Outlet no. 2
All	A	SAE 4-bolt flg	SAE 4-bolt flg.	SAE 4-bolt flg.
All	AM*	Metric 4-bolt flg.	Metric 4-bolt flg.	Metric 4-bolt flg.
2520VQ	C	SAE 4-bolt flg.	SAE str. thd.	SAE str. thd.
All but 4535VQ	E	SAE 4-bolt flg.	SAE 4-bolt flg.	SAE str. thd.
2520VQ	F	SAE 4-bolt flg.	SAE str. thd.	SAE 4-bolt flg.

*Same as code "A" port connections, except metric threads for fastening flanges.

6 Geometric displacement - cover end pump
Code = SAE rating (USgpm) at 1200 r/min and 7 bar (100 psi)

Frame Size	Code (USgpm)	cm ³ /r	in ³ /r
**20VQ	5	18,0	1.10
	8	27,4	1.67
	11	36,4	2.22
	12	39,5	2.41
	14	45,9	2.80
**25VQ	12	40,2	2.45
	14	45,4	2.77
	17	55,2	3.37
	21	67,5	4.12

4535VQ	25	81,6	4.98
	30	97,7	5.96
	35	112,8	6.88
	38	121,6	7.42

7 Mounting & shaft seal assembly

S – Flange mount and double shaft seal
Omit for flange mount with single shaft seal.

8 Shaft type

With standard pilot, single shaft seal

- 1** – Straight keyed
- 11** – Splined
- 86** – Straight keyed, heavy duty

With standard pilot, double shaft seal

- 123** – Splined (not available on 45**VQ)
- 130** – Splined (for 45**VQ only)

With SAE pilot, single or double shaft seal

- 203** – Straight keyed, heavy duty
- 297** – Splined

9 Port orientation

(Viewed from cover end of pump)

All series except 4535VQ

With No.1 outlet opposite inlet:

AA - No. 2 outlet 135° CCW from inlet

AB - No. 2 outlet 45° CCW from inlet

AC - No. 2 outlet 45° CW from inlet

AD - No. 2 outlet 135° CW from inlet

With No.1 outlet 90° CCW from inlet:

BA - No. 2 outlet 135° CCW from inlet

BB - No. 2 outlet 45° CCW from inlet

BC - No. 2 outlet 45° CW from inlet

BD - No. 2 outlet 135° CW from inlet

With No.1 outlet inline with inlet:

CA - No. 2 outlet 135° CCW from inlet

CB - No. 2 outlet 45° CCW from inlet

CC - No. 2 outlet 45° CW from inlet

CD - No. 2 outlet 135° CW from inlet

With No.1 outlet 90° CW from inlet:

DA - No. 2 outlet 135° CCW from inlet

DB - No. 2 outlet 45° CCW from inlet

DC - No. 2 outlet 45° CW from inlet

DD - No. 2 outlet 135° CW from inlet

Series 4535VQ

With No.1 outlet opposite inlet:

AA - No. 2 outlet opposite inlet

AB - No. 2 outlet 90° CCW from inlet

AC - No. 2 outlet inline with inlet

AD - No. 2 outlet 90° CW from inlet

With No.1 outlet 90° CW from inlet:

BA - No. 2 outlet opposite inlet

BB - No. 2 outlet 90° CCW from inlet

BC - No. 2 outlet inline with inlet

BD - No. 2 outlet 90° CW from inlet

With No.1 outlet inline with inlet:

CA - No. 2 outlet opposite inlet

CB - No. 2 outlet 90° CCW from inlet

CC - No. 2 outlet inline inlet

CD - No. 2 outlet 90° CW from inlet

With No.1 outlet 90° CW from inlet:

DA - No. 2 outlet opposite inlet

DB - No. 2 outlet 90° CCW from inlet

DC - No. 2 outlet inline with inlet

DD - No. 2 outlet 90° CW from inlet

10 Design

11 Shaft Rotation

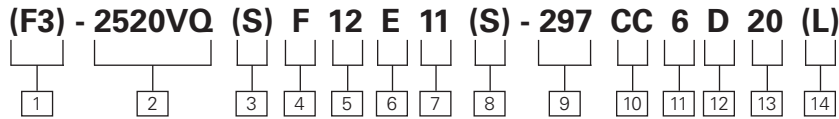
(Viewed from shaft end of pump)

L – Left hand (counterclockwise)

Omit for right hand.

Model Codes

Double Pump (without integral valves)



1 F3 - Viton seals
Omit if not required.

2 Intravane pump series

2520VQ	3525VQ	4525VQ
--------	--------	--------

3 Pilot designation
S – SAE per ISO 3019/1 (SAE J744)
Omit for standard pilot.

4 Integral valve options
F – Flow control and relief
P – Priority valve and relief

5 Geometric displacement shaft end pump
Code = SAE rating (USgpm) at 1200 r/min and 7 bar (100 psi)

Frame	Code	Size	(USgpm)	cm ³ /r	in ³ /r
2520VQ	12	40,2	2.45		
	14	45,4	2.77		
	17	55,2	3.37		
	21	67,5	4.12		
3520VQ	25	81,6	4.98		
	30	97,7	5.96		
	35	112,8	6.88		
	38	121,6	7.42		
4520VQ	42	138,7	8.46		
	50	162,3	9.90		
	60	193,4	11.80		

6 Port connections

Pump series	Code	Inlet	Outlet no. 1	Outlet(s) no. 2	Tank
2520VQ only	C	SAE 4-bolt flg.	SAE str. thd.	SAE str. thd.	SAE str. thd.
All pumps	E	SAE 4-bolt flg.	SAE 4-bolt flg.	SAE str. thd.	SAE str. thd.

7 Geometric displacement - cover end pump
Code = SAE rating (USgpm) at 1200 r/min and 7 bar (100 psi)

Frame	Code	Size	(USgpm)	cm ³ /r	in ³ /r
**20VQ	5	18,0	1.10		
	8	27,4	1.67		
	11	36,4	2.22		
	12	39,5	2.41		
	14	45,9	2.80		

8 Mounting & shaft seal assembly
S – Flange mount and double shaft seal
Omit for flange mount with single shaft seal.

9 Shaft type
With standard pilot, single shaft seal
1 – Straight keyed
11 – Splined
86 – Straight keyed, heavy duty
With standard pilot, double shaft seal
123 – Splined (not available on 4520VQ)
130 – Splined (for 4520VQ only)

With SAE pilot, single or double shaft seal
203 – Straight keyed, heavy duty
297 – Splined

10 Port orientation
(Viewed from cover end of pump)
With No.1 outlet opposite inlet:
AA - No. 2 outlet 135° CCW from inlet
AB - No. 2 outlet 45° CCW from inlet
AC - No. 2 outlet 45° CW from inlet
AD - No. 2 outlet 135° CW from inlet
With No.1 outlet 90° CCW from inlet:
BA - No. 2 outlet 135° CCW from inlet
BB - No. 2 outlet 45° CCW from inlet
BC - No. 2 outlet 45° CW from inlet
BD - No. 2 outlet 135° CW from inlet
With No.1 outlet inline with inlet:
CA - No. 2 outlet 135° CCW from inlet
CB - No. 2 outlet 45° CCW from inlet
CC - No. 2 outlet 45° CW from inlet
CD - No. 2 outlet 135° CW from inlet
With No.1 outlet 90° CW from inlet:
DA - No. 2 outlet 135° CCW from inlet
DB - No. 2 outlet 45° CCW from inlet
DC - No. 2 outlet 45° CW from inlet
DD - No. 2 outlet 135° CW from inlet

11 Controlled flow rate – USgpm
2, 4, 6, 7, 8, 10 or 12 USgpm

12 Relief valve setting – bar (psi)

C – 52 (750)	G – 121 (1750)
D – 70 (1000)	H – 140 (2000)
E – 86 (1250)	J – 155 (2250)
F – 100 (1500)	K – 175 (2500)

13 Design
(Viewed from shaft end of pump)
L - Left hand (counterclockwise)
Omit for right hand.

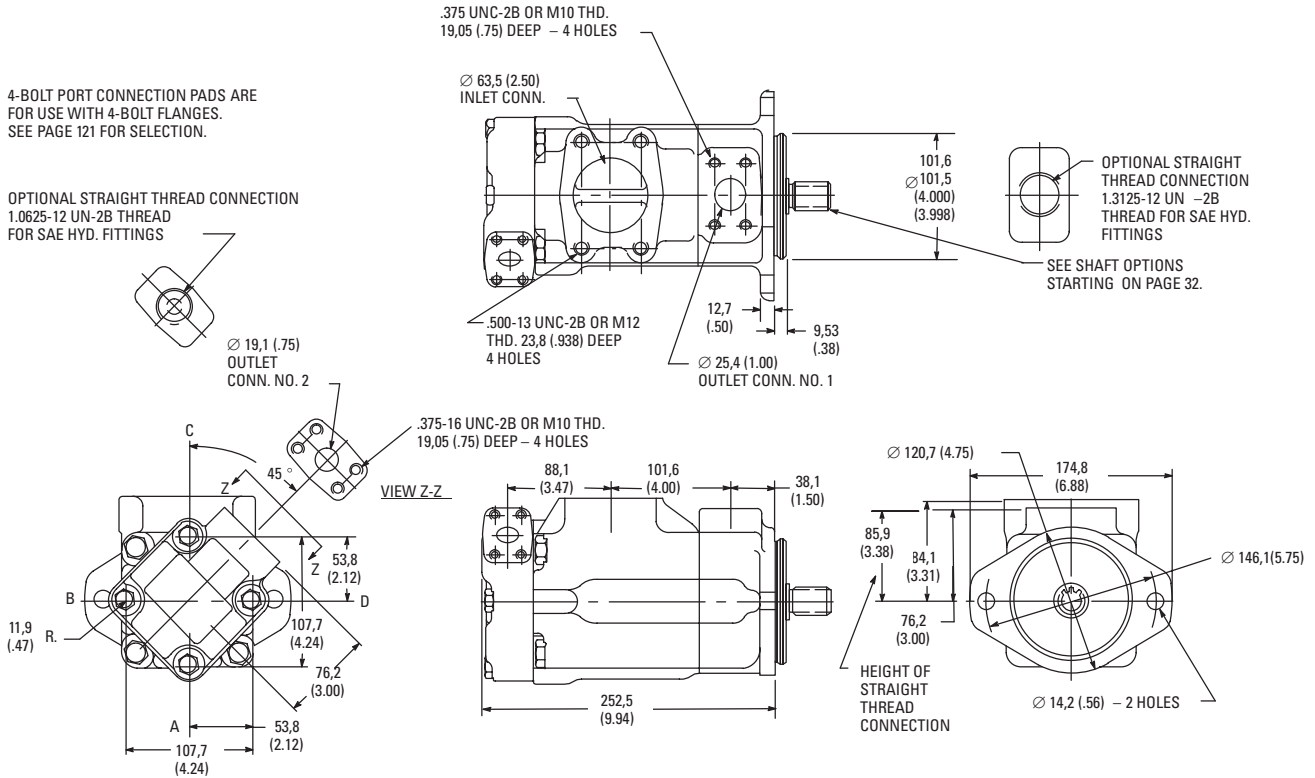
14 Shaft Rotation
(Viewed from shaft end of pump)
L – Left hand (counterclockwise)
Omit for right hand.

Note: For options other than listed in the model code, i.e. shafts, ports, displacements and mountings, contact your Vickers representative.

Installation Dimensions

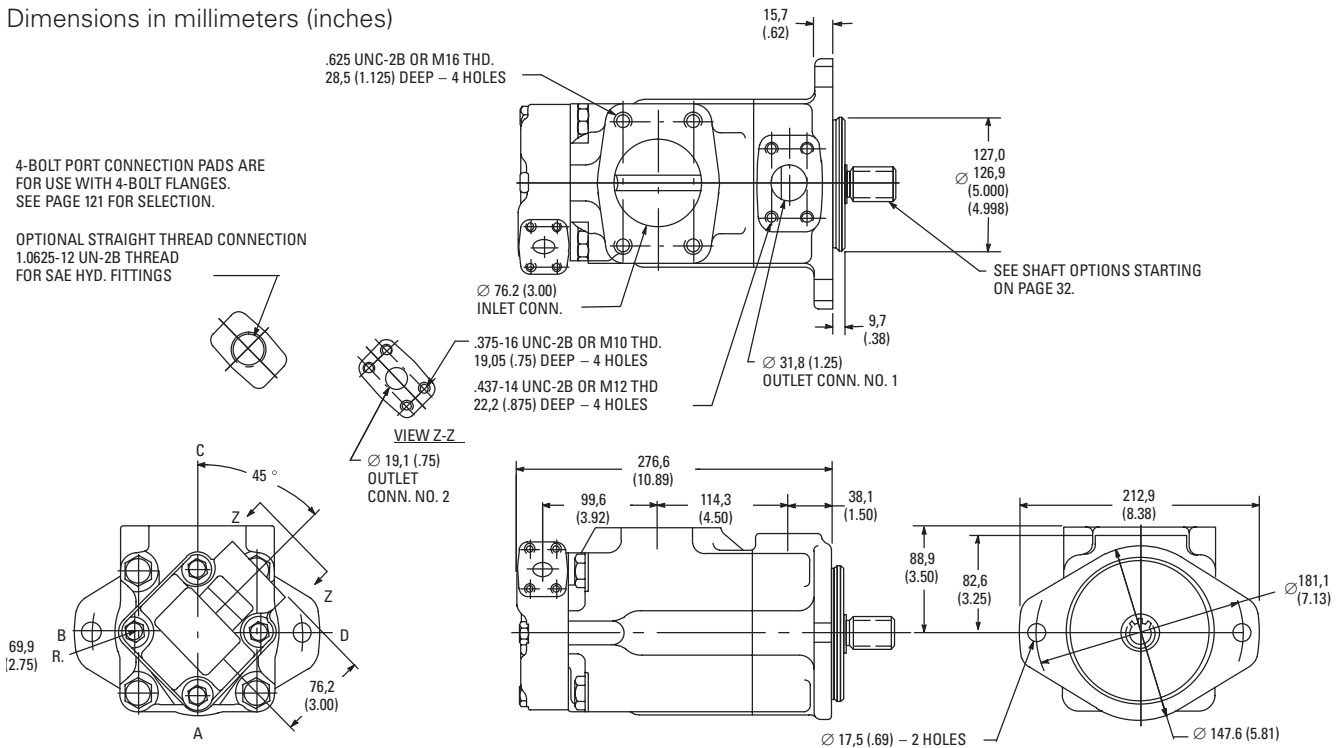
2520VQ Series

Dimensions in millimeters (inches)



3520VQ Series

Dimensions in millimeters (inches)

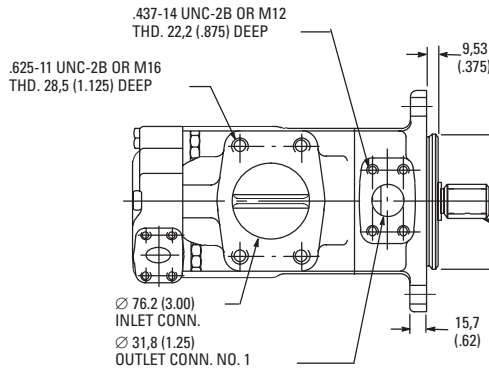


3525VQ Series

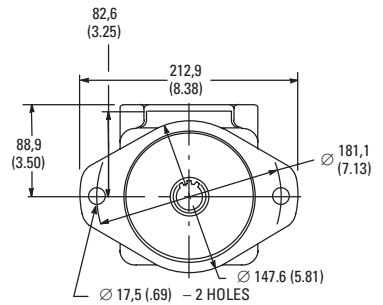
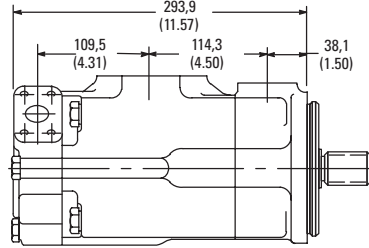
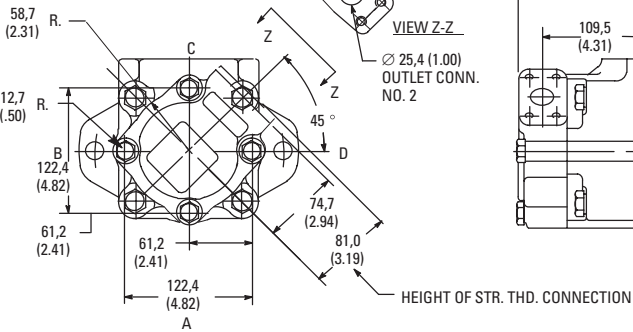
Dimensions in millimeters (inches)

4-BOLT PORT CONNECTION PADS ARE FOR USE WITH 4-BOLT FLANGES. SEE PAGE 121 FOR SELECTION.

OPTIONAL STRAIGHT THREAD CONNECTION 1.3125-12 UN-2B THREAD FOR SAE HYD. FITTINGS



.375-16 UNC-2B OR M10 THD 16,7 (.66) DEEP

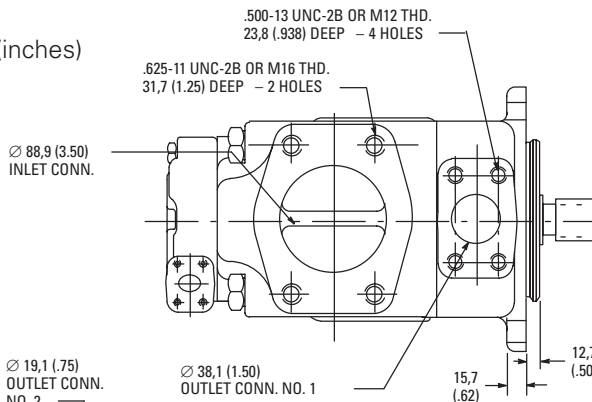


4520VQ Series

Dimensions in millimeters (inches)

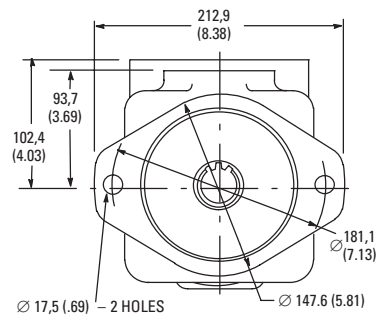
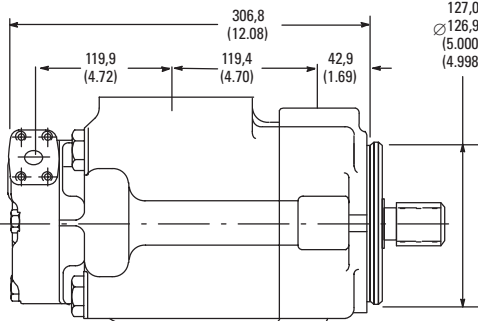
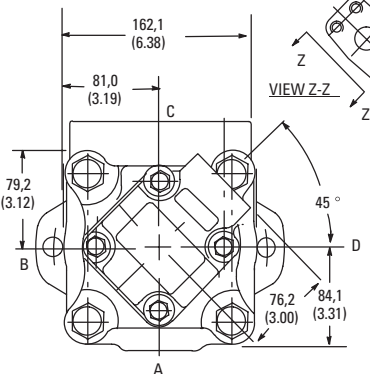
4-BOLT PORT CONNECTION PADS ARE FOR USE WITH 4-BOLT FLANGES. SEE PAGE 121 FOR SELECTION.

OPTIONAL STRAIGHT THREAD CONNECTION 1.0625-12 UN-2B THREAD FOR SAE HYD. FITTINGS



\varnothing 19,1 (.75) OUTLET CONN. NO. 2

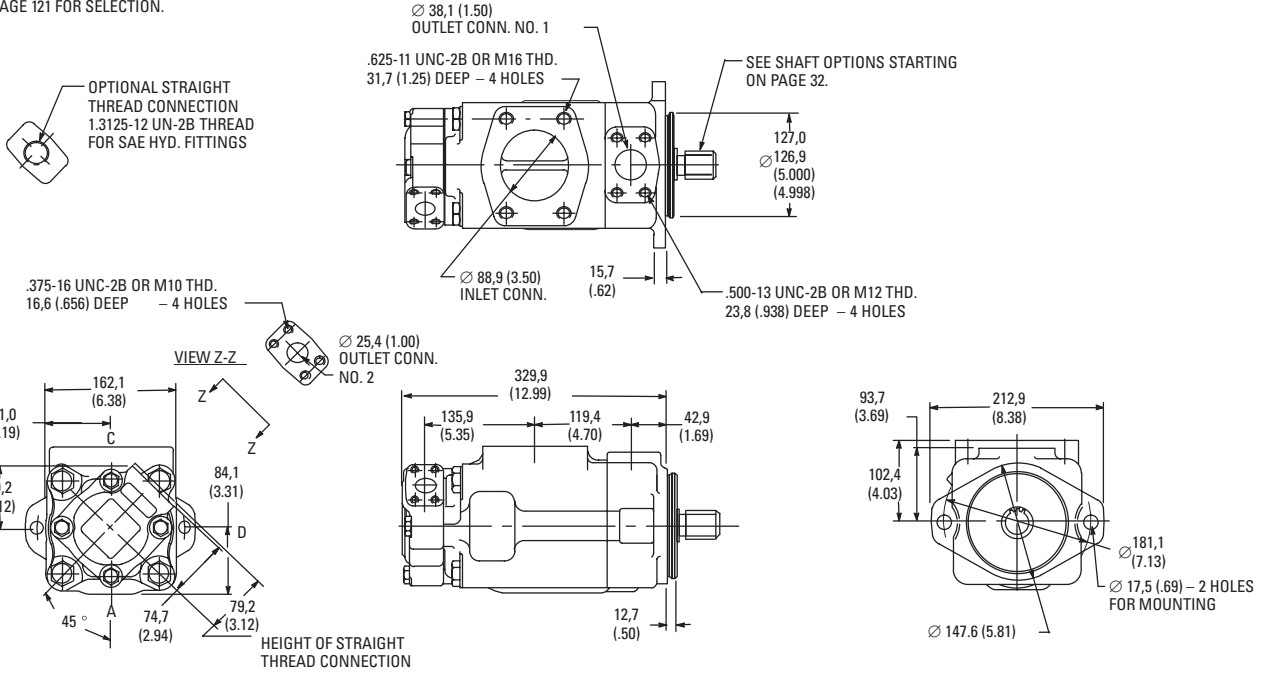
.375-16 UNC-2B OR M10 THD. 19,05 (.75) DEEP - 4 HOLES



4525VQ Series

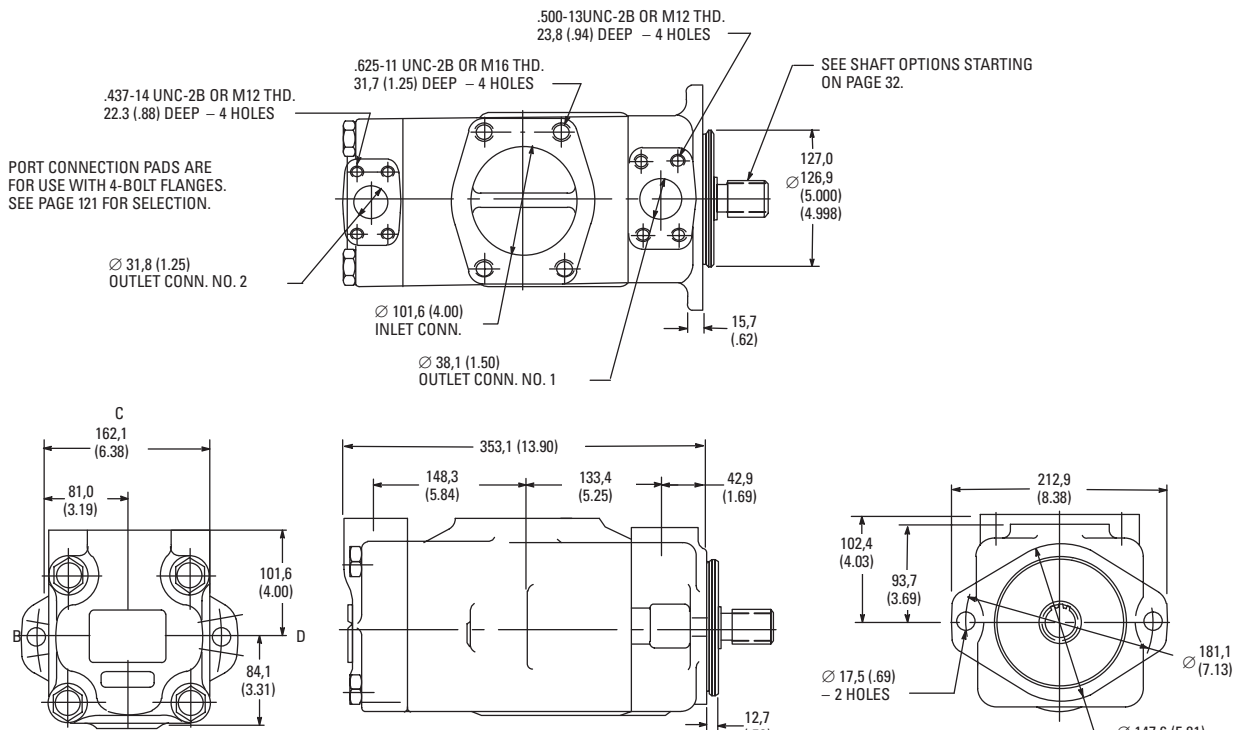
Dimensions in millimeters (inches)

4-BOLT PORT CONNECTION PADS ARE FOR USE WITH 4-BOLT FLANGES. SEE PAGE 121 FOR SELECTION.



4535VQ Series

Dimensions in millimeters (inches)



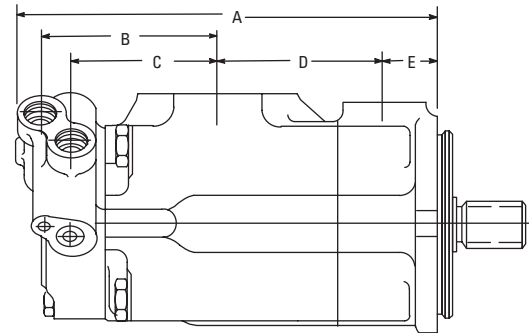
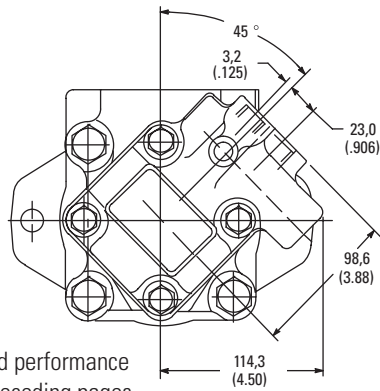
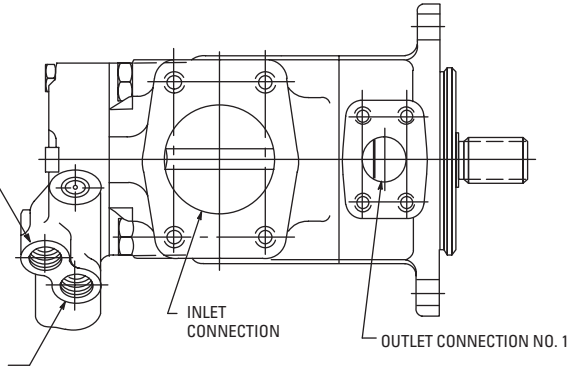
Installation Dimensions

Pumps with flow control cover

Dimensions in millimeters (inches)

Model series	A	B	Dimensions C	D	E
2520VQF	265,9 (10.47)	108,7 (4.28)	88,1 (3.47)	101,6 (4.00)	38,1 (1.50)
3520VQF	289,8 (11.41)	120,1 (4.73)	99,6 (3.92)	114,3 (4.50)	38,1 (1.50)
4520VQF	320,3 (12.61)	140,5 (5.53)	119,9 (4.72)	119,4 (4.70)	42,9 (1.69)

OUTLET CONNECTION NO. 2
.750-16 UNF-2B THD.



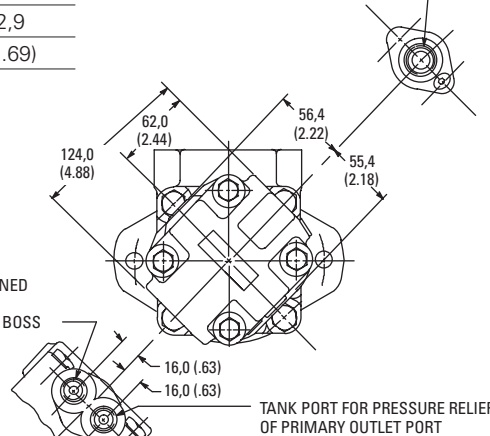
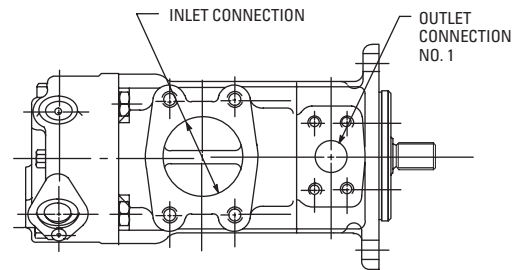
Note: For installation dimensions and performance data of basic pump series, refer to preceding pages.

Pumps with priority valve cover

Dimensions in millimeters (inches)

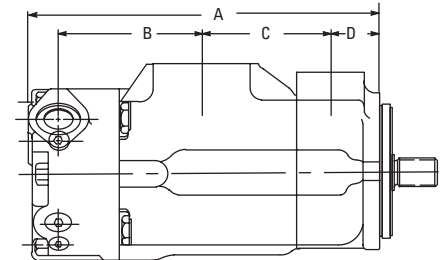
Model series	A	Dimensions B	C	D
2520VQP	276,6 (10.89)	113,0 (4.45)	101,6 (4.00)	38,1 (1.50)
3520VQP	300,7 (11.84)	124,5 (4.90)	114,3 (4.50)	38,1 (1.50)
4520VQP	331,0 (13.03)	144,8 (5.70)	119,4 (4.70)	42,9 (1.69)

SECONDARY OUTLET PORT
.875-14 UNF-2B THD PORT
MACHINED TO .62 TUBE SIZE
PER SAE SPEC FOR STRAIGHT
THD "O" RING BOSS.



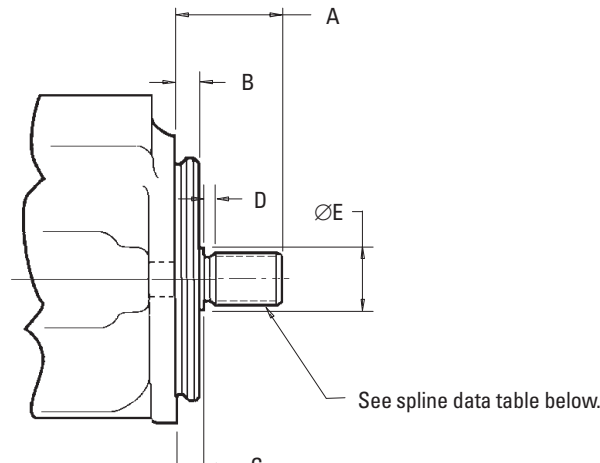
#2 PRIMARY OUTLET PORT
.750-16 UNF-2B THD. PORT MACHINED
TO .50 TUBE SIZE PER SAE SPEC.
FOR STRAIGHT THREAD "O" RING BOSS

TANK PORT FOR PRESSURE RELIEF
OF PRIMARY OUTLET PORT



Splined Shafts

Dimensions in millimeters (inches)



Pump	Shaft Code	A	B	C	D	ØE	Spline Data (See below.)
2520VQ	11	44,5 (1.75)	9,53 (.375)	11,1 (.437)	4,1 (.16)	27,8 (1.09)	A
2520VQF,	123	44,5 (1.75)	9,53 (.375)	15,7 (.62)	4,1 (.16)	27,8 (1.09)	A
2520VQP	297	41,1 (1.62)	9,53 (.375)	7,9 (.31)	6,4 (.25)	27,8 (1.09)	C
3520VQ,							
3520VQF,	11	58,7 (2.31)	9,53 (.375)	11,1 (.437)	6,4 (.25)	35,1 (1.38)	D
3520VQP,	123	58,7 (2.31)	9,53 (.375)	15,2 (.60)	5,5 (.21)	35,1 (1.38)	D
3525VQ	297	55,5 (2.19)	12,7 (.500)	7,9 (.31)	5,5 (.21)	35,1 (1.38)	E
4520VQ,							
4520VQF,							
4520VQP,	11	61,9 (2.44)	12,7 (.500)	14,3 (.565)	9,7 (.38)	39,6 (1.56)	D
4525VQ,	130	61,9 (2.44)	12,7 (.500)	15,2 (.60)	9,9 (.39)	40,4 (1.59)	D
4535VQ	297	55,5 (2.19)	12,7 (.500)	7,9 (.31)	6,4 (.25)	39,6 (1.56)	E

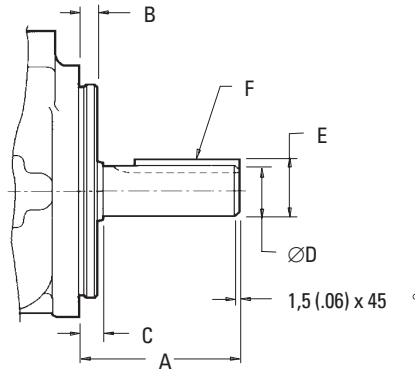
Spline Data Table

(Involute splines from above chart)

Spline Data Reference	Number of Teeth	Pitch	Major Diameter	Form Diameter	Minor Diameter	Minor Diameter
A	13	16/32	22,17 (.873) 22,15 (.872)	19,03 (.749)	18,16 (.715)	Major dia. fit
C	13	16/32	21,8 (.858) 21,6 (.852)	19,03 (.749)	18,16 (.715)	Side fit
D	14	12/24	31,70 (1.248) 31,67 (1.247)	27,4 (1.08)	26,42 (1.040)	Major dia. fit
E	14	12/24	31,2 (1.229) 31,1 (1.223)	27,4 (1.08)	26,42 (1.040)	Side fit

Straight Key Shafts

Dimensions in millimeters (inches)



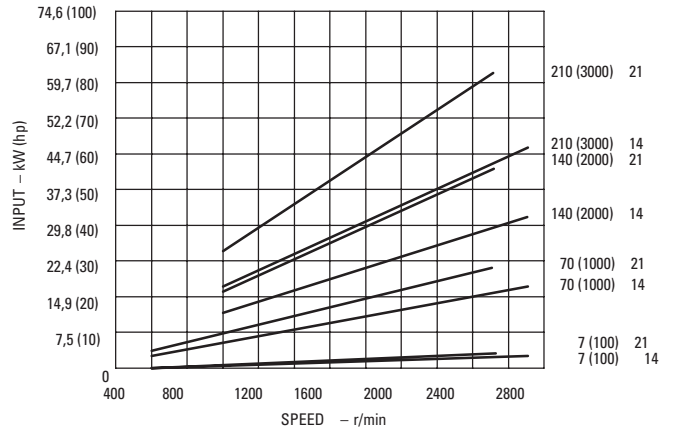
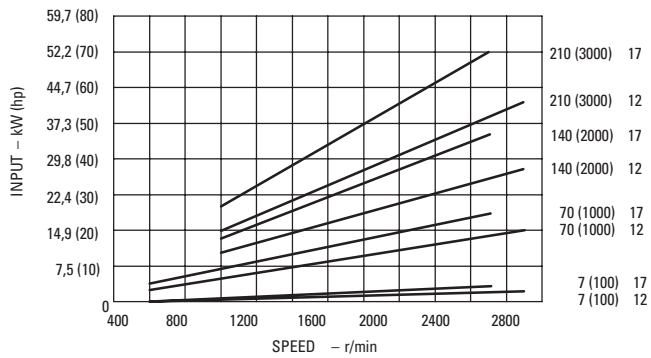
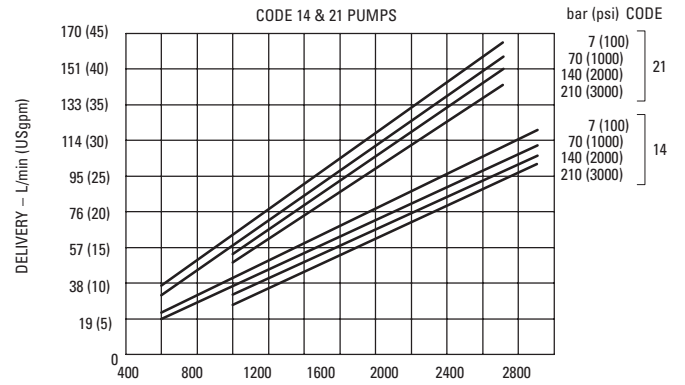
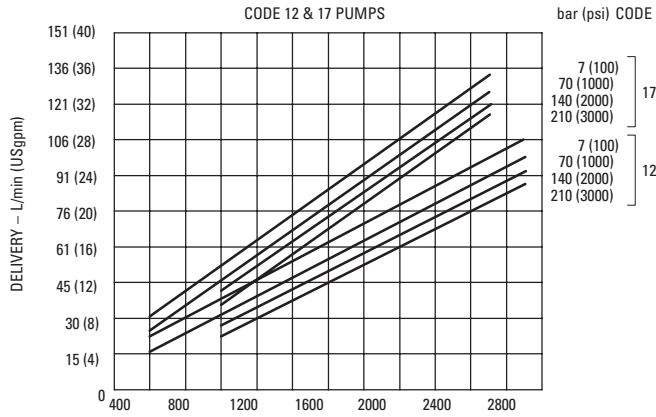
Pump	Shaft Code	A	B	C	ØD	E	F key width x length
2520VQ,	1	58,7 (2.31)	9,53 (.375)	11,1 (.435)	22,23 (.875) 22,20 (.874)	24,5 (.966) 24,4 (.961)	4,75 (.187) x 32 (1.25)
2520VQF,	86	77,7 (3.06)	9,53 (.375)	11,1 (.435)	25,37 (.999) 25,35 (.998)	28,3 (1.11) 28,1 (1.10)	6,35 (.250) x 50,8 (2.00)
2520VQP	203	77,7 (3.06)	9,53 (.375)	7,9 (.31)▲	25,40 (1.00) 25,35 (.998)	28,20 (1.11) 27,94 (1.10)	6,35 (.250) x 49,2 (1.938)
3520VQ,	1	73,2 (2.88)	9,53 (.375)	11,1 (.435)	31,75 (1.250) 31,70 (1.248)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 38,1 (1.50)
3520VQF, 3520VQP,	86	85,9(3.38)	9,53 (.375)	11,1 (.435)	34,90 (1.374) 34,87 (1.373)	38,6 (1.52) 38,3 (1.51)	7,92 (.312) x 54 (2.13)
3525VQ	203	84,1 (3.31)	12,7 (.500)	7,9 (.31)▲	34,90 (1.374) 34,87 (1.373)	38,6 (1.52) 38,3 (1.51)	7,92 (.312) x 54 (2.125)
4520VQ, 4520VQF,	1	62,0 (2.44)	12,7 (.500)	14,22 (.560)	31,75 (1.250) 31,70 (1.248)	35,36 (1.39) 34,10 (1.38)	7,92 (.312) x 28,5 (1.12)
4520VQP, 4525VQ,	86	87,4 (3.44)	12,7 (.500)	14,22 (.560)	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 50,8 (2.00)
4535VQ	203	90,4 (3.56)	12,7 (.500)	7,9 (.31)▲	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 57,1 (2.25)

▲ Shaft shoulder inside recess in pilot.

Typical Performance

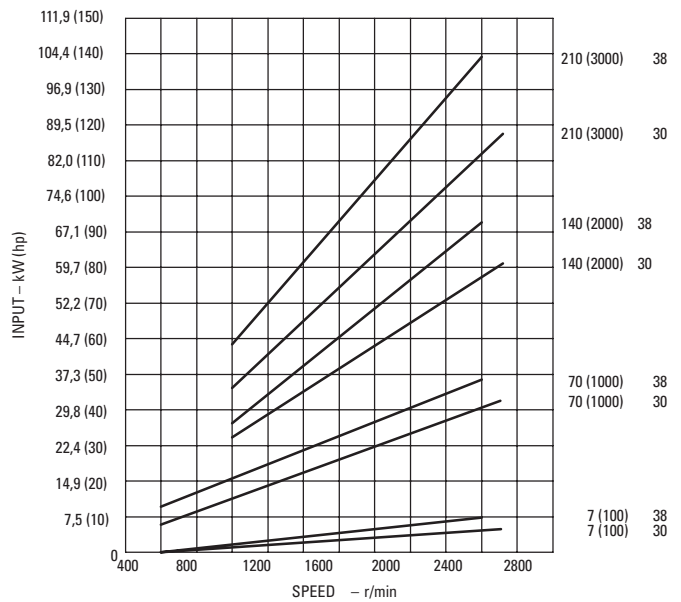
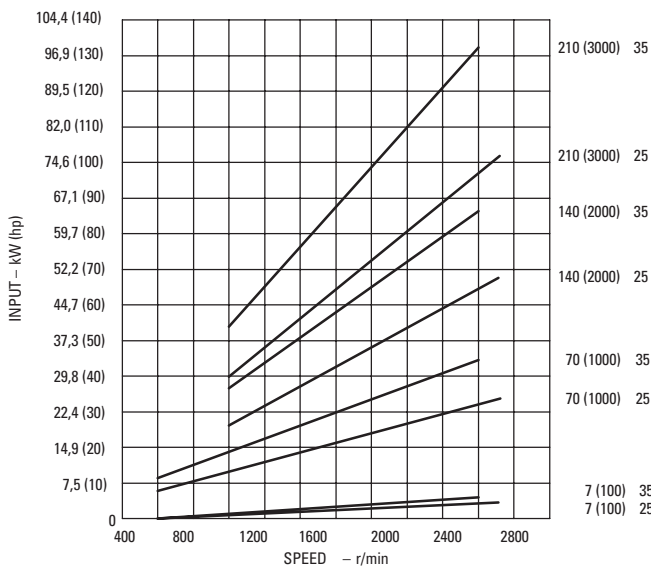
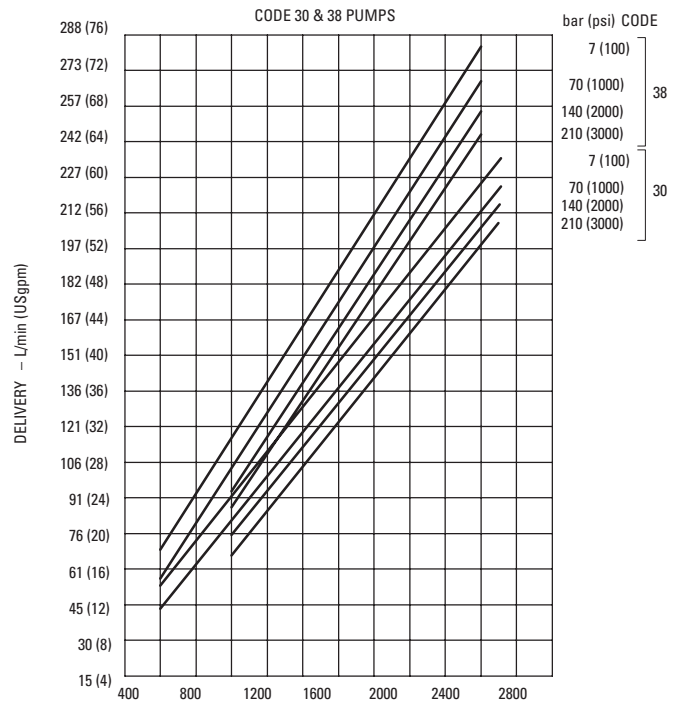
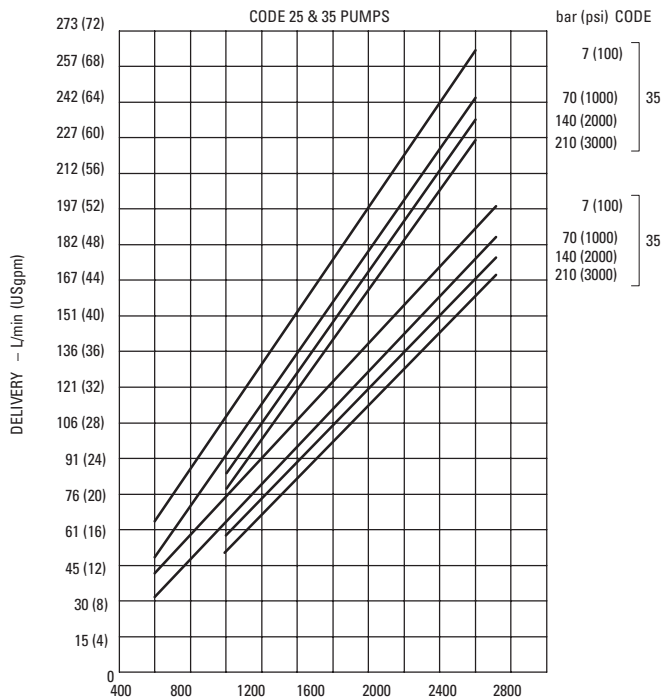
Shaft End Pumps
2520VQ Double Pumps & 2520VQV10 Triple Pumps

Performance Constants:
SAE 10W fluid @ 82°C (180°F)
Pump inlet @ 0 psig (14.7 psia)



Shaft End Pumps
3520VQ & 3525VQ Double Pumps, 352*VQV10 Triple Pumps,
3525VQT Double Thru-drive Pumps

Performance Constants:
SAE 10W fluid @ 82°C (180°F)
Pump inlet @ 0 psig (14.7 psia)

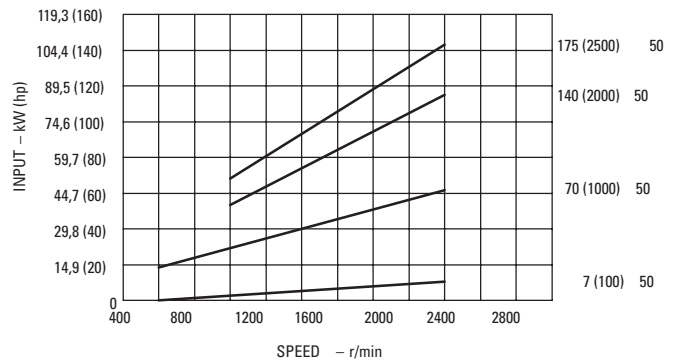
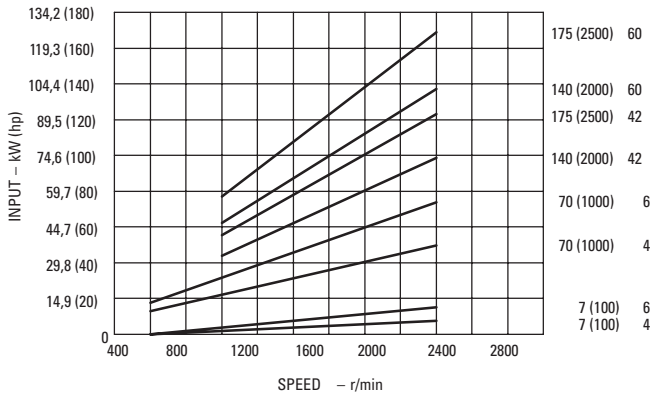
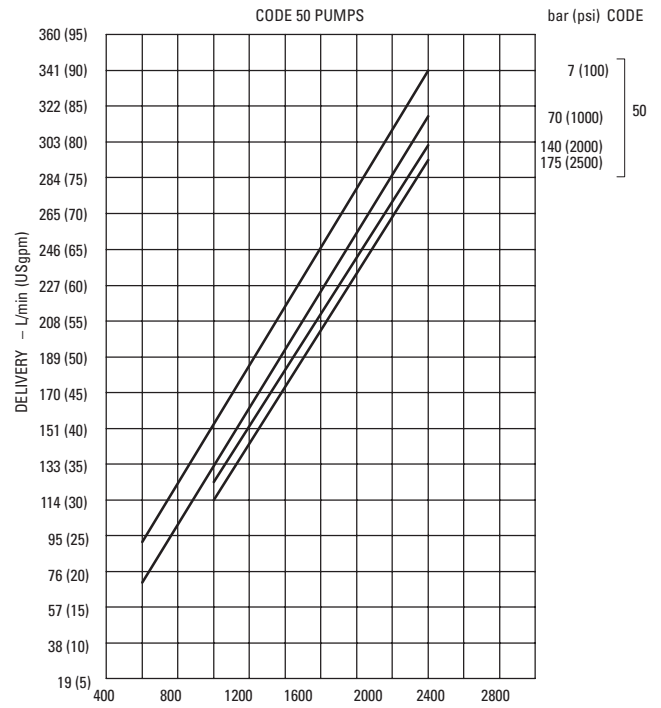
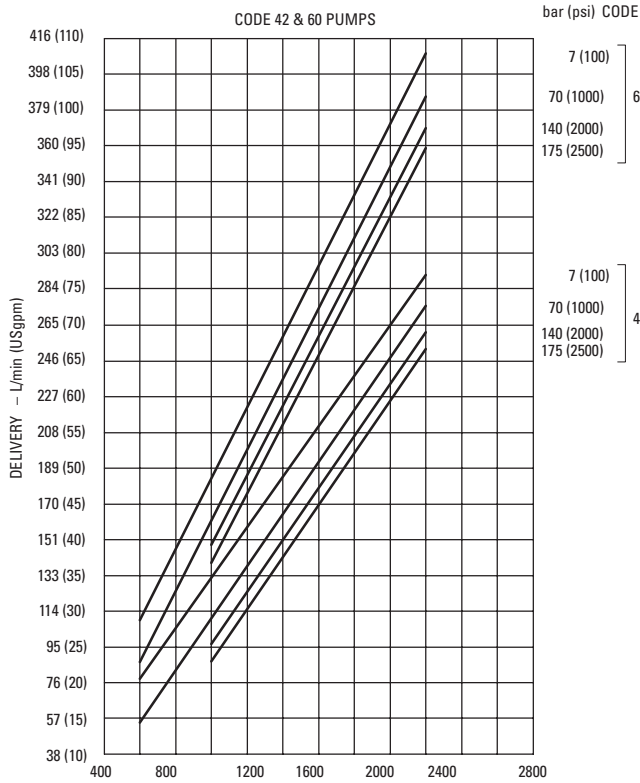


**Shaft End Pumps 4520VQ, 4525VQ & 4535VQ Double Pumps,
45*5VQV10 Triple Pumps, 4525VQT Double Thru-drive Pumps**

Performance Constants:

SAE 10W fluid @ 82° C (180° F)

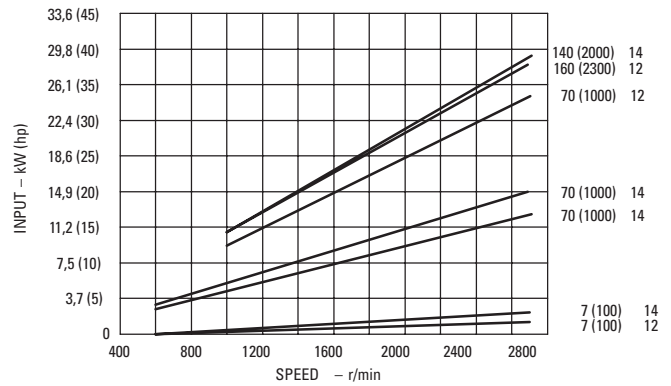
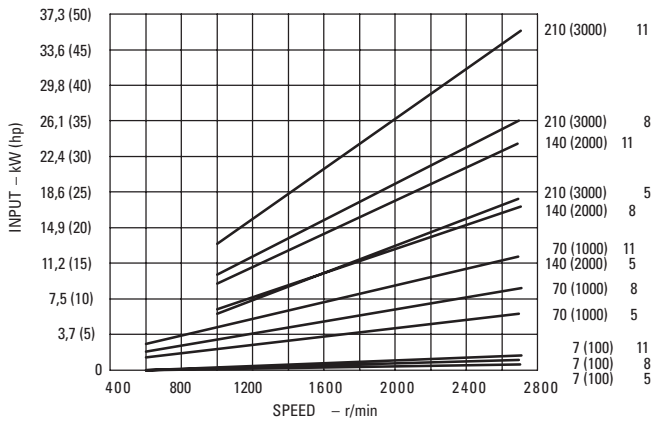
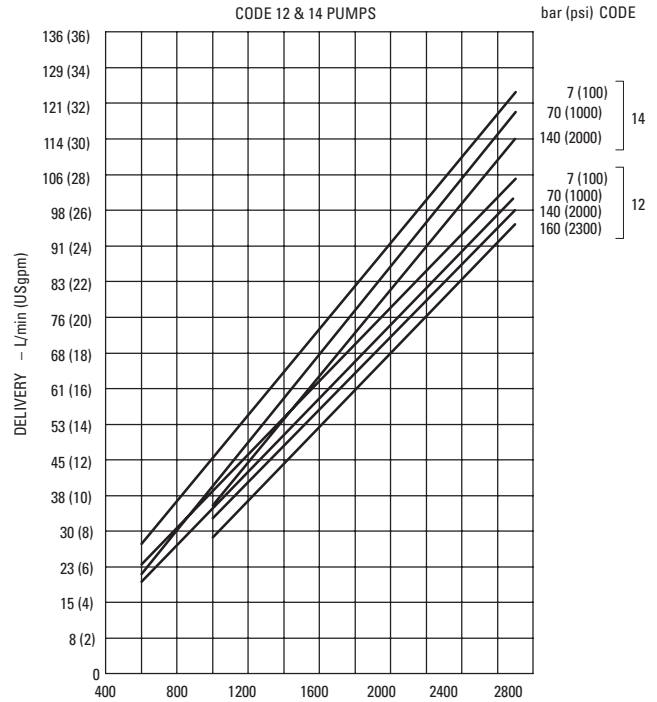
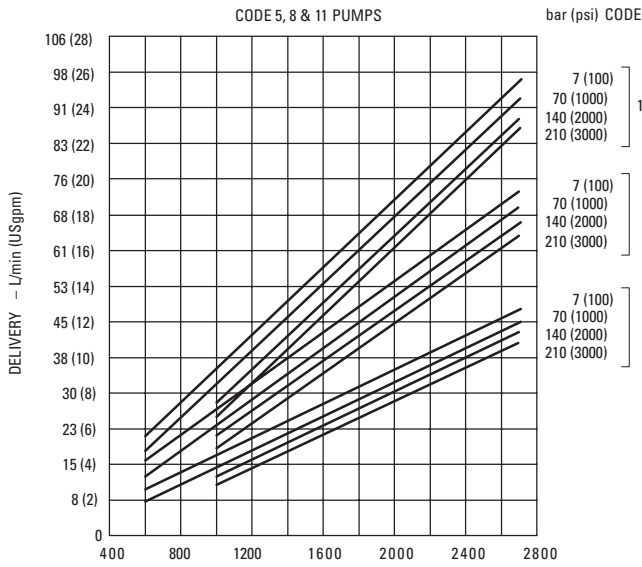
Pump inlet @ 0 psig (14.7 psia)



Typical Performance

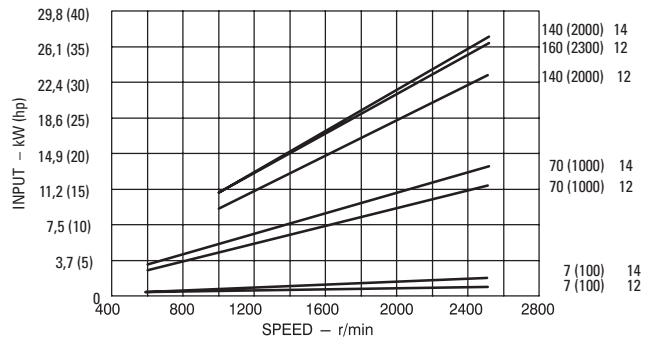
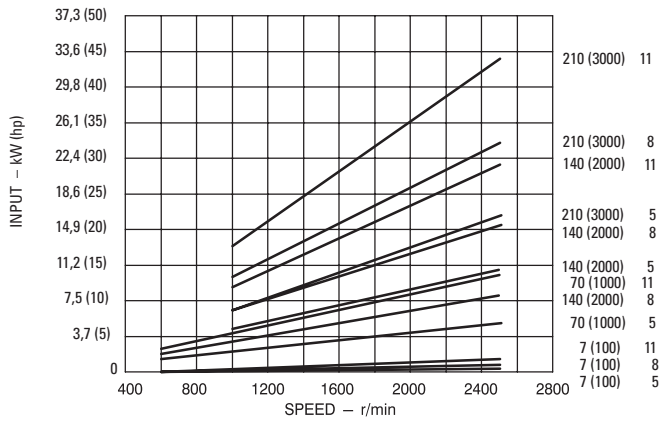
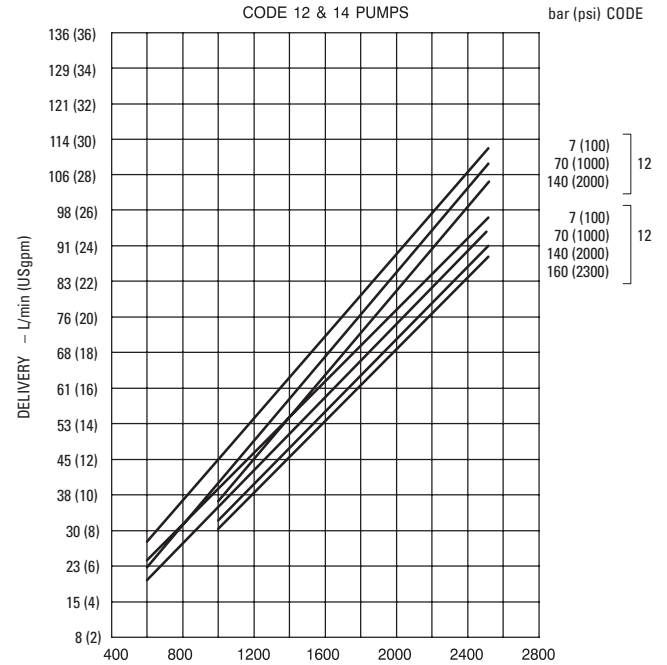
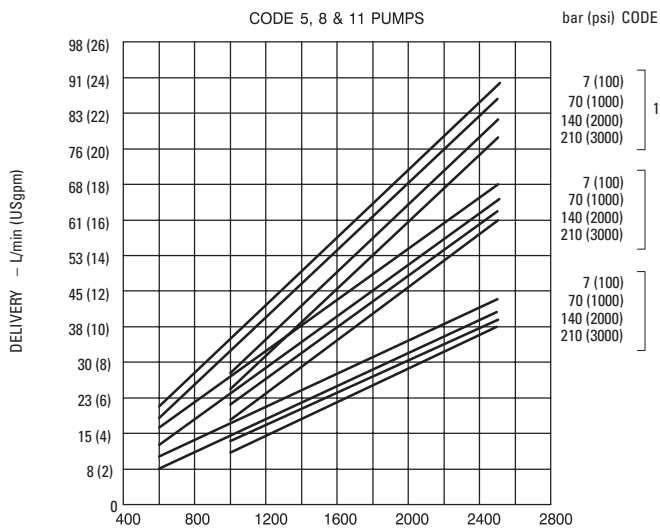
Cover-end Pumps of 2520VQ Double Pumps & Center Pumps of 2520VQV10 Triple Pumps

Performance Constants:
SAE 10W fluid @ 82°C (180°F)
Pump inlet @ 0 psig (14.7 psia)



Cover-end Pumps of 3520VQ Double Pumps, Center Pumps of 3520VQV10 Triple Pumps, Rear Pumps of 3525VQT Double Thru-drive Pumps

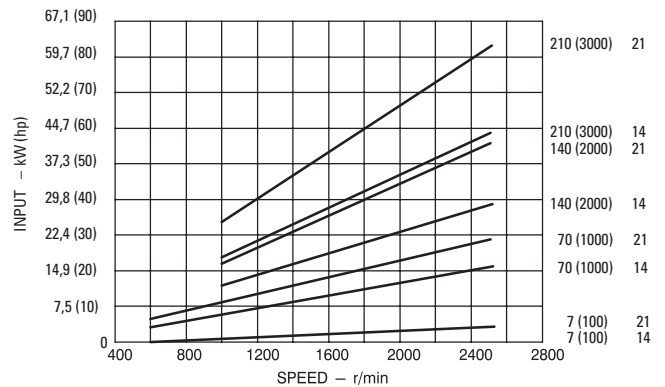
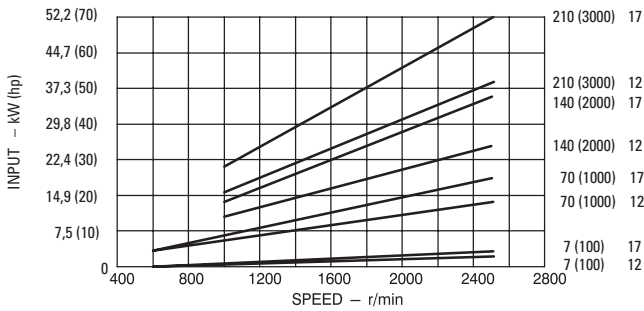
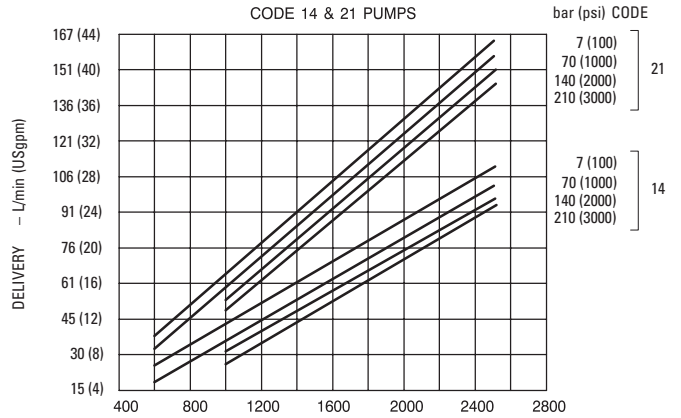
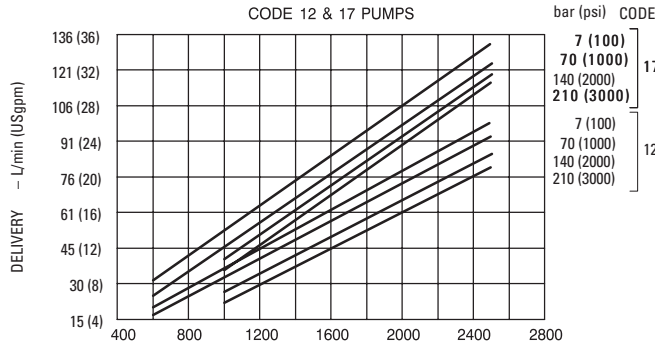
Performance Constants:
 SAE 10W fluid @ 82°C (180°F)
 Pump inlet @ 0 psig (14.7 psia)



Typical Performance

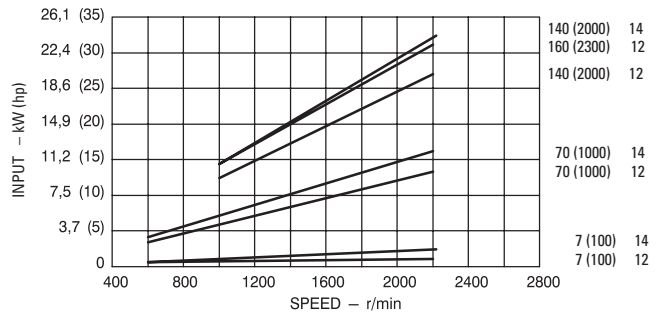
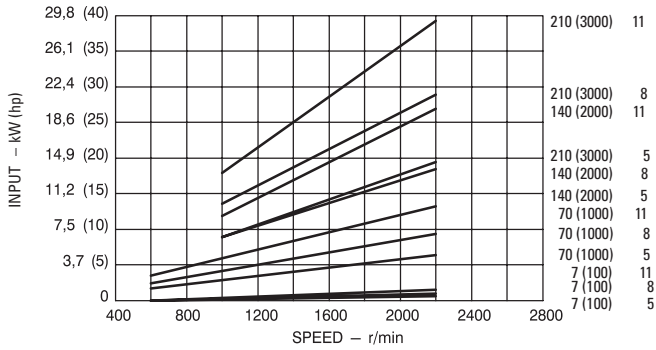
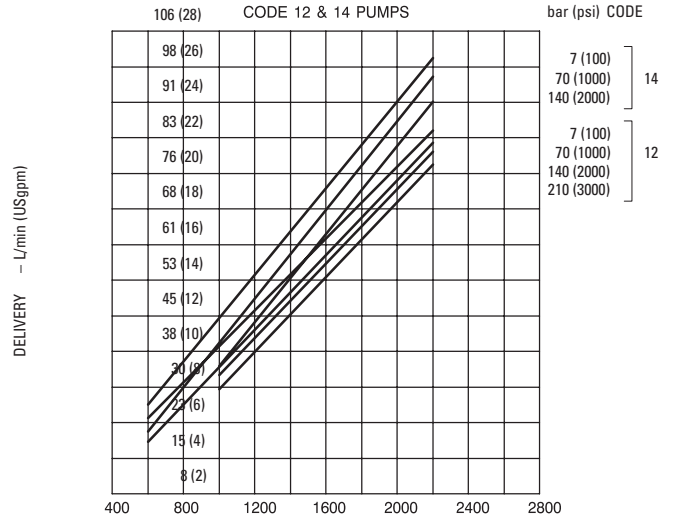
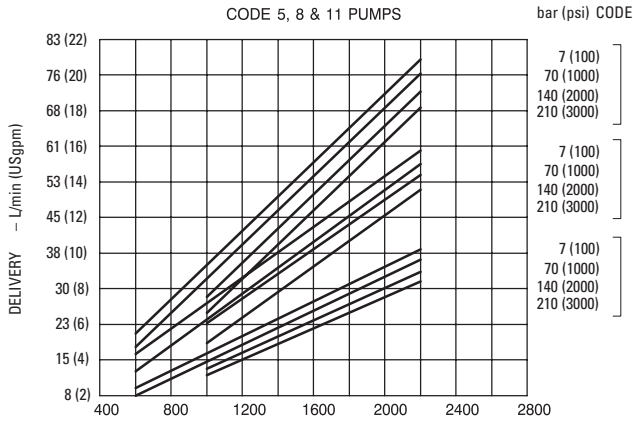
Cover-end Pumps of 3525VQ Double Pumps & Center Pumps of 3525VQV10 Triple Pumps

Performance Constants:
SAE 10W fluid @ 82°C (180°F)
Pump inlet @ 0 psig (14.7 psia)



Cover-end Pumps of 4520VQ Double Pumps & Center Pumps of 4520VQV10 Triple Pumps

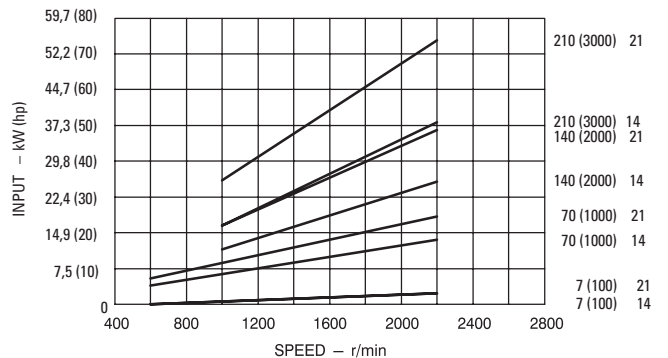
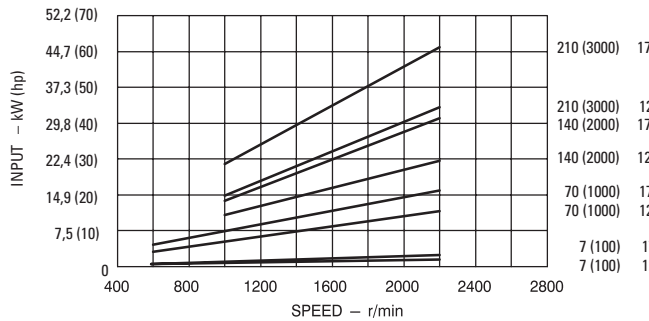
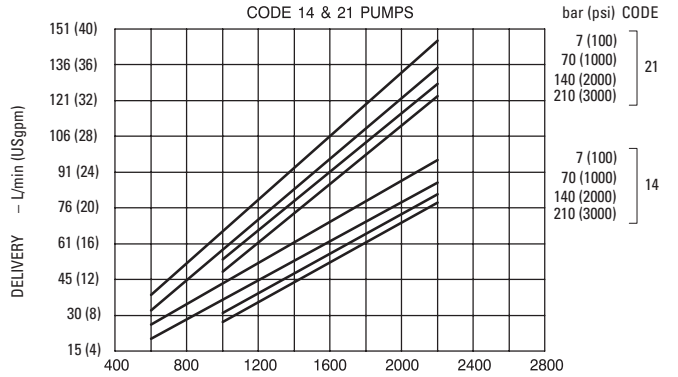
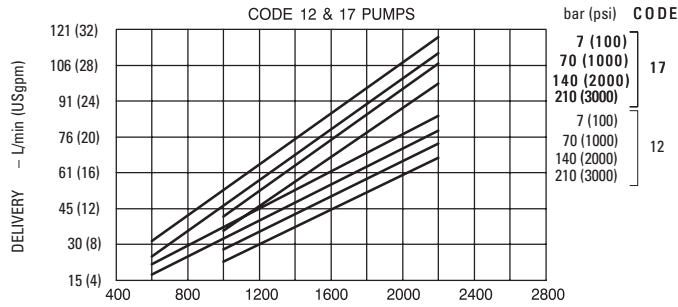
Performance Constants:
 SAE 10W fluid @ 82° C (180° F)
 Pump inlet @ 0 psig (14.7 psia)



Typical Performance

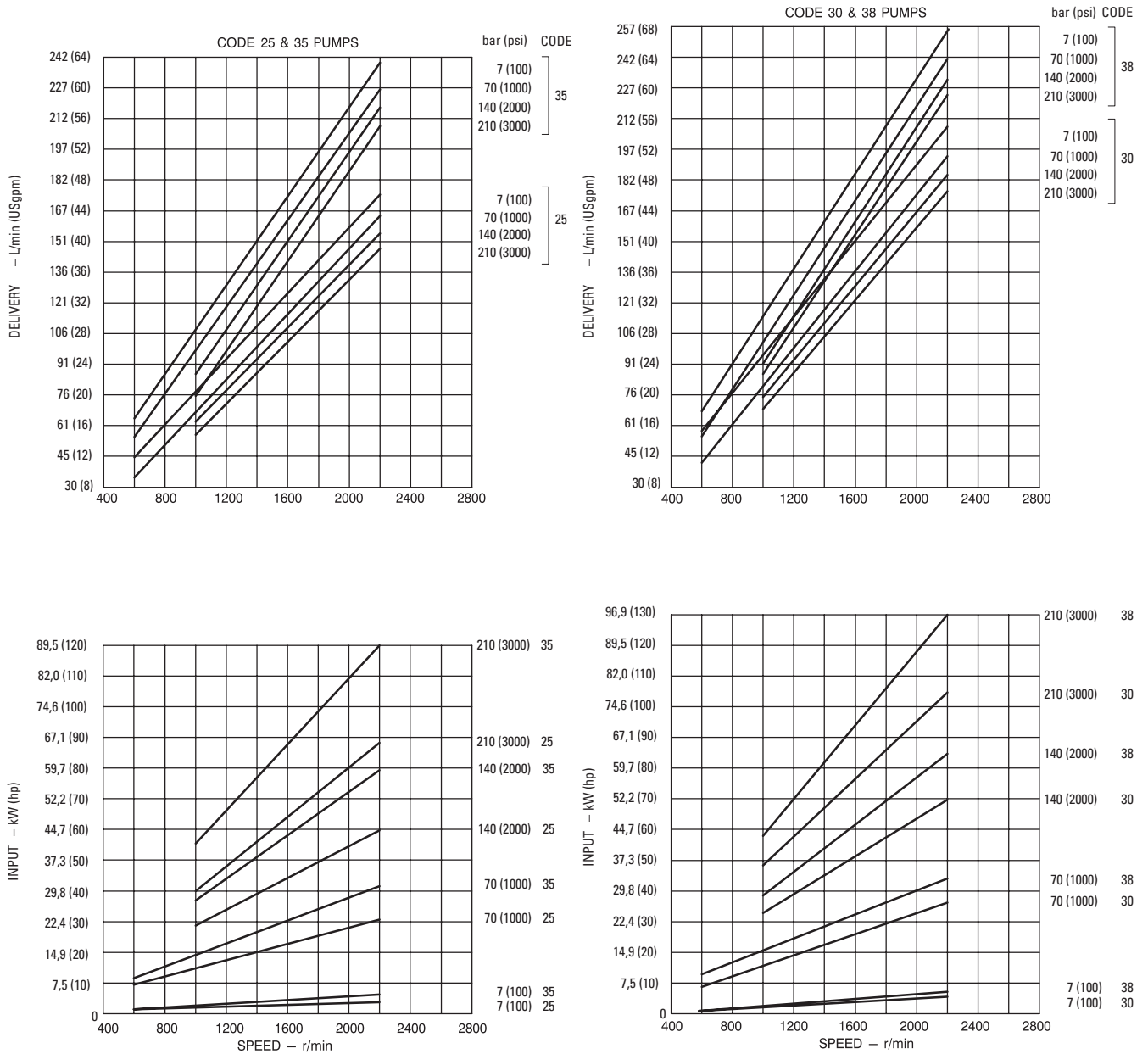
Cover-end Pumps of 4520VQ Double Pumps, Center Pumps of 4525VQV10 Triple Pumps, Rear Pumps of 4525VQT Double Thru-drive Pumps

Performance Constants:
SAE 10W fluid @ 82°C (180°F)
Pump inlet @ 0 psig (14.7 psia)



Cover-end Pumps of 4535VQ Double Pumps & Center Pumps of 4535VQV10 Triple Pumps

Performance Constants:
 SAE 10W fluid @ 82° C (180° F)
 Pump inlet @ 0 psig (14.7 psia)



Typical Performance

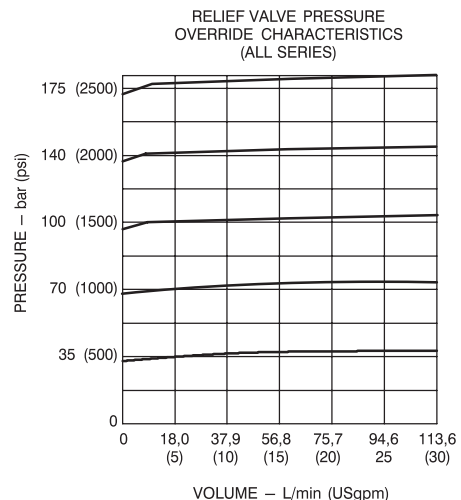
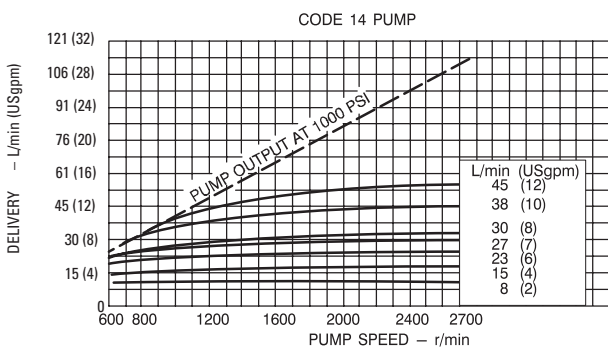
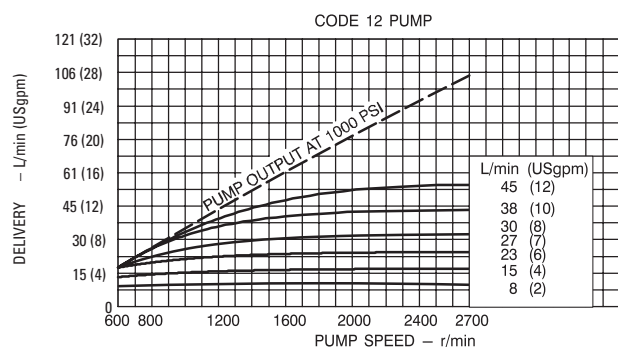
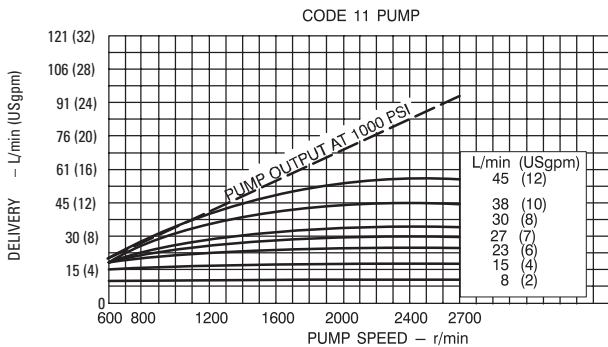
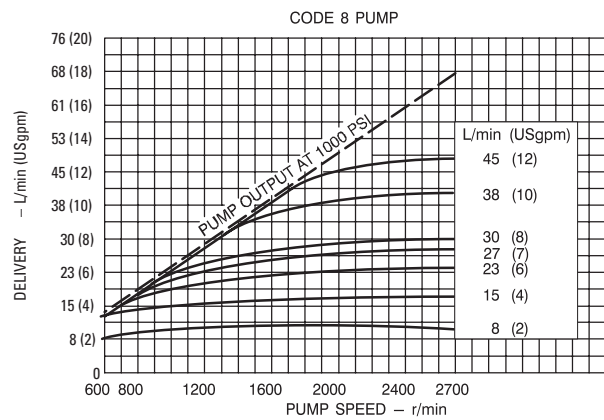
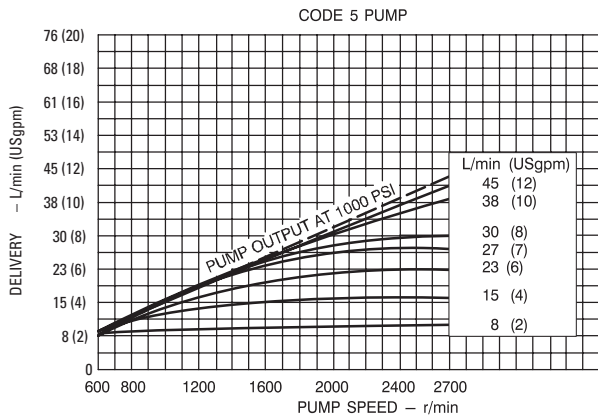
Controlled Flow - Integral Valves (cover end) Models 2520VQF, 3520VQF & 4520VQF Double Pumps

Performance Constants:

SAE 10W fluid @ 82°C (180°F)

Pump inlet @ 0 psig (14.7 psia)

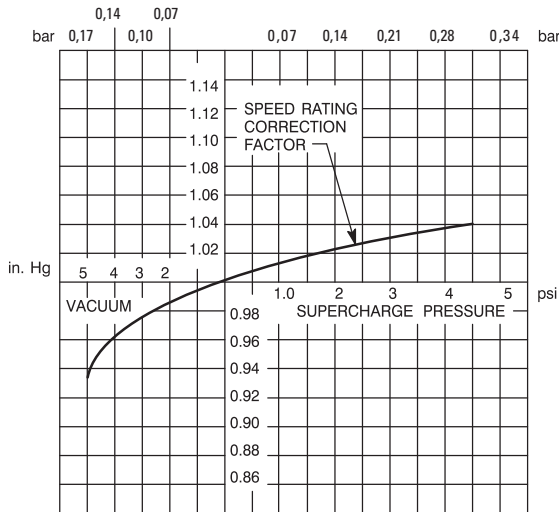
Curves shown for 70 bar (1000 psi) operating pressure. Controlled flow varies slightly at other pressures.



Speed Correction Curves

Maximum operating speed correction factors based on pump inlet conditions.

2520VQ Series

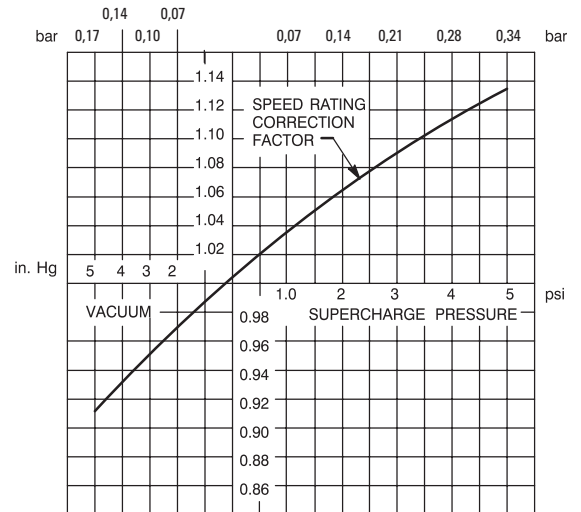


Maximum operating speeds shown on performance curves are for pumps operating at 0 psi inlet condition. To compute maximum operating speeds at other inlet conditions use the appropriate speed rating correction factor shown in the curve above.

EXAMPLE: Max. Speed @ 0 psi Inlet 2700 r/min
Correction Factor @ 5 in. Hg X .93
Max. Speed @ 5 in. Hg Inlet 2511 r/min

Pump inlet suction should not exceed 5 in. Hg vacuum. Positive pressure on inlet should not exceed 1.4 bar (20 psi).

4520VQ & 4535VQ Series

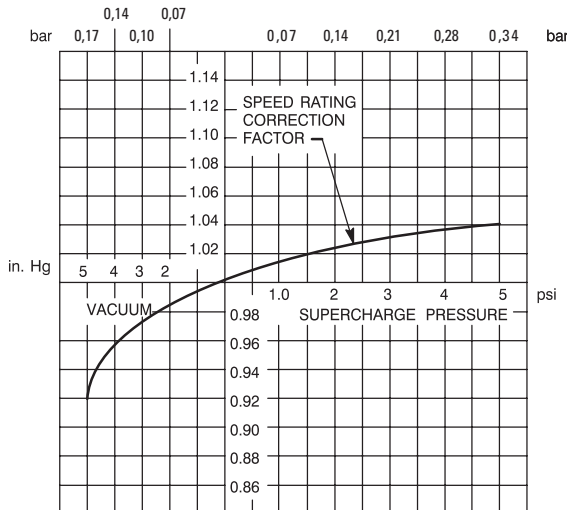


Maximum operating speeds shown on performance curves are for pumps operating at 0 psi inlet condition. To compute maximum operating speeds at other inlet conditions use the appropriate speed rating correction factor shown in the curve above.

EXAMPLE: Max. Speed @ 0 psi Inlet 2200 r/min
Correction Factor @ 5 in. Hg X .91
Max. Speed @ 5 in. Hg Inlet 2002 r/min

Pump inlet suction should not exceed 5 in. Hg vacuum. Positive pressure on inlet should not exceed 1.4 bar (20 psi).

3520VQ & 3525VQ Series



Maximum operating speeds shown on performance curves are for pumps operating at 0 psi inlet condition. To compute maximum operating speeds at other inlet conditions use the appropriate speed rating correction factor shown in the curve above.

EXAMPLE: Max. Speed @ 0 psi Inlet 2500 r/min
Correction Factor @ 5 in. Hg X .92
Max. Speed @ 5 in. Hg Inlet 2300 r/min

Pump inlet suction should not exceed 5 in. Hg vacuum. Positive pressure on inlet should not exceed 1.4 bar (20 psi).