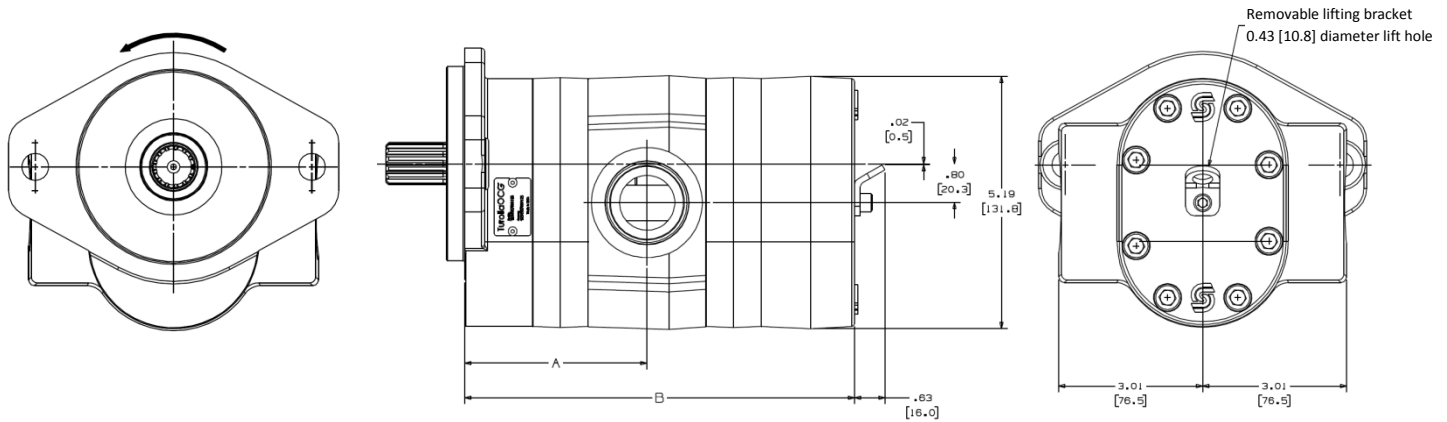


Dimensions and Ratings



Parameters	Unit	34	38	41	45	51	58	64	72	76	82	90
Displacement	cm ³ /rev	34.0	38.0	41.0	45.0	50.8	58.0	63.6	72.2	76.0	82.0	90.2
	in ³ /rev	2.08	2.32	2.50	2.74	3.10	3.54	3.88	4.40	4.64	5.00	5.50
Rated Pressure	bar	276	276	276	276	276	276	255	226	215	200	180
	psi	4000	4000	4000	4000	4000	4000	3700	3275	3100	2880	2620
Peak Pressure	bar	303	303	303	303	303	303	285	250	235	220	200
	psi	4400	4400	4400	4400	4400	4400	4130	3625	3400	3200	2900
Maximum Speed	rpm	3400	3400	3400	3400	3400	3200	3000	2750	2700	2500	2275
Theoretical flow at max speed	l/min	116	129	139	153	173	186	191	199	205	205	205
	US gal/min	31	34	37	40	46	49	50	52	54	54	54
Dimension A	mm	82.9	85	86.5	88.3	91.3	94.9	97.7	102	104	106.8	111.1
	in	3.27	3.35	3.41	3.48	3.6	3.74	3.85	4.02	4.1	4.21	4.38
Dimension B	mm	179.1	183.1	186.2	189.7	195.8	202.9	208.5	217.2	221.2	226.8	235.5
	in	7.05	7.21	7.33	7.47	7.71	7.99	8.21	8.55	8.71	8.93	9.27

Product features

Construction	Heavy duty ductile iron
Displacements	34 to 90 cm ³ /rev [2.04 to 5.40 in ³ /rev]
Pressure	276 bar [4000 psi]
Speed	600-3400 rpm
Operating Temperature	-30°C [-20°F] minimum cold start 104°C [220°F] normal conditions 113°C [235°F] peak intermittent
Fluid Viscosity	10 mm ² /sec (cSt) [60 SUS] min 1600 mm ² /sec (cSt) [7500 SUS] max

Mounting	SAE-B, 2- bolt
Shaft	Spline - SAE 15 tooth Straight key - 25mm (1 inch)
Optional Shaft (Reduced torque)	Spline - SAE 13 Straight key - 22 (7/8 inch) 1:8 Taper - 22mm (7/8) with key
Inlet Ports	SAE 1.25 SAE split flange, 1 5/8-12 ORB 1.50 inch (38mm) beaded tube
Outlet Ports	SAE 1.25 SAE split flange, 1 5/8-12 ORB
Filtration	22/18/13 ISO 4406 at pump inlet

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DE3R-34SH-BB-408-07-401-32-N407-NNN-000-BM-AN-NNN

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A Rotation - viewed from drive shaft

Code	Description
L	Left hand (counterclockwise)
R	Right hand (clockwise)

B1 Displacement - First Section

Code	Description	Code	Description
07	7.0 cm ³ /rev [0.43 in ³ /rev]	23	22.5 cm ³ /rev [1.37 in ³ /rev]
10	9.5 cm ³ /rev [0.58 in ³ /rev]	25	25.4 cm ³ /rev [1.55 in ³ /rev]
11	10.8 cm ³ /rev [0.66 in ³ /rev]	29	29.0 cm ³ /rev [1.77 in ³ /rev]
13	12.6 cm ³ /rev [0.77 in ³ /rev]	32	31.8 cm ³ /rev [1.94 in ³ /rev]
14	14.3 cm ³ /rev [0.87 in ³ /rev]	36	36.1 cm ³ /rev [2.20 in ³ /rev]
17	17.0 cm ³ /rev [1.04 in ³ /rev]	38	38.0 cm ³ /rev [2.32 in ³ /rev]
19	19.0 cm ³ /rev [1.16 in ³ /rev]	41	41.0 cm ³ /rev [2.50 in ³ /rev]
21	20.5 cm ³ /rev [1.25 in ³ /rev]	45	45.1 cm ³ /rev [2.75 in ³ /rev]

B2 Input Shaft

Code	Description
SE*	SAE 9 tooth spline, 31.8 mm [1.25 in] length
SC	SAE 11 tooth spline, 38.1 mm [1.50 in] length
SF	11 tooth spline, 31.8 mm [1.25 in] length (special modified length)
SH	SAE 13 tooth spline, 41 mm [1.62 in] length
SV	15 tooth spline, 46 mm [1.81 in] length (requires mounting flange AR or BR)
PB	22 mm [7/8 in] diameter x 41 mm [1.62 in] length, with 1/4 inch key
PD	19 mm [3/4 in] diameter x 51 mm [2.0 in] length, with 3/16 inch key
PZ	25.4 mm [1 inch] diameter x 46 mm [1.81 in] length, with 1/4 inch key
TA	1:5 taper, 25mm [1 in] dia, 58mm [2.30 in] length, 5/8 thread, M5 key with locknut and washer
TG	1:8 taper, 22mm [7/8 in] dia, 50mm [1.95 in] length, 5/8 thread with key, locknut and washer
TH	1:8 taper, 22mm [7/8 in] dia, 49mm [1.94 in] length, 9/16 thread with key, locknut and washer
WT	Input shaft similar to TH option with 34 tooth helical gear for Perkins engine mount

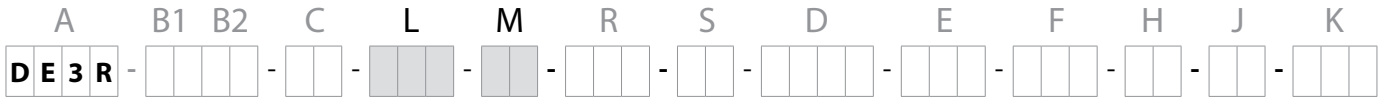
* Contact factory for units with SE (9T spline) to verify torque limits



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C Mounting Flange

Code	Description
AA	SAE A 2-bolt
AC	SAE A 2-bolt, use with integral PFD/Steering Cover
AM	SAE A 2-bolt, with T seal
AP	SAE A 2-bolt, with T seal, use with integral PFD/Steering cover
AR	SAE A 2-bolt, use with 15 T spline input drive
AS	SAE A 2-bolt, use with integral PFD/Steering cover and 15 T input spline
AL	SAE A 2-bolt, two shaft seals with weep hole
AT	SAE A 2-bolt, two shaft seals with weep hole, use with integral PFD/Steering cover
BB	SAE B 2-bolt
BC	SAE B 2-bolt, use with integral PFD/Steering cover
BM	SAE B 2-bolt, with T seal
BP	SAE B 2-bolt, with T seal, use with integral PFD/Steering cover
BR	SAE B 2-bolt, use with 15 T spline input drive
BS	SAE B 2-bolt, use with integral PFD/Steering cover and 15 T input spline
BT	SAE B 2-bolt, two shaft seals with weep hole, use with integral PFD/Steering Cover
BW	SAE B 2-bolt, two shaft seals with weep hole
PP	Perkins 6 bolt flange with (2) seals (use with WT input shaft and clockwise rotation)

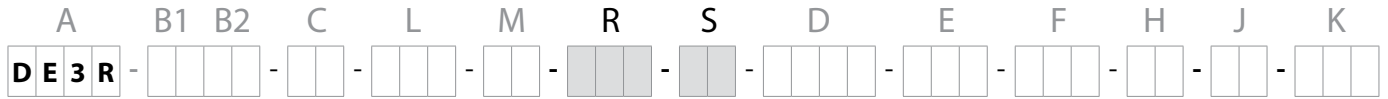


L Ports - First Section

Code	Description	
101	1 1/16-12 side inlet, 7/8-14 side outlet	SAE O-ring boss ports No integrated valves
103	1 5/16-12 side inlet, 7/8-14 side outlet	
104	1 5/16-12 side inlet, 1 1/16-12 side outlet	
113	No inlet, 7/8-14 side outlet	
125	1 5/8-12 side inlet, 1 1/16-12 side outlet	
126	No inlet, 1 1/16-12 side outlet	
341	No inlet, 3/4 side split flange outlet (SAE Code 61)	SAE Split Flange Ports - No integrated valves
342	1 1/4 side split flange inlet, 3/4 side split flange outlet (SAE Code 61)	
401	No inlet, 1/2-14 side outlet	British Standard Pipe Parallel (BSPP) threads - No integrated valves
402	3/4-14 side inlet, 1/2-14 side outlet	
403	1-11 side inlet, 1/2-14 side outlet	
404	1 1/4-11 side inlet, 1/2-14 side outlet	
405	No inlet, 3/4-14 side outlet	
407	1-11 side inlet, 3/4-14 side outlet	
408	1 1/4-11 side inlet, 3/4-14 side outlet	
704	1 1/4 side tube inlet, 7/8-14 side ORB outlet	Beaded tube inlet port SAE O-ring boss outlet port No integrated valves
708	1 1/4 side tube inlet, 1 1/16-12 side ORB outlet	
716	1 1/2 side tube inlet, 1 1/16-12 side ORB outlet	
717	1 1/2 side tube inlet, 7/8-14 side ORB outlet	

M Displacement - Second Section

Code	Description	Code	Description
07	7.0 cm ³ /rev [0.43 in ³ /rev]	23	22.5 cm ³ /rev [1.37 in ³ /rev]
10	9.5 cm ³ /rev [0.58 in ³ /rev]	25	25.4 cm ³ /rev [1.55 in ³ /rev]
11	10.8 cm ³ /rev [0.66 in ³ /rev]	29	29.0 cm ³ /rev [1.77 in ³ /rev]
13	12.6 cm ³ /rev [0.77 in ³ /rev]	32	31.8 cm ³ /rev [1.94 in ³ /rev]
14	14.3 cm ³ /rev [0.87 in ³ /rev]	36	36.1 cm ³ /rev [2.20 in ³ /rev]
17	17.0 cm ³ /rev [1.04 in ³ /rev]	38	38.0 cm ³ /rev [2.32 in ³ /rev]
19	19.0 cm ³ /rev [1.16 in ³ /rev]	41	41.0 cm ³ /rev [2.50 in ³ /rev]
21	20.5 cm ³ /rev [1.25 in ³ /rev]	45	45.1 cm ³ /rev [2.75 in ³ /rev]



R Ports - Second Section

Code	Description	
101	1 1/16-12 side inlet, 7/8-14 side outlet	
103	1 5/16-12 side inlet, 7/8-14 side outlet	
104	1 5/16-12 side inlet, 1 1/16-12 side outlet	SAE O-ring boss ports No integrated valves
113	No inlet, 7/8-14 side outlet	
125	1 5/8-12 side inlet, 1 1/16-12 side outlet	
126	No inlet, 1 1/16-12 side outlet	
341	No inlet, 3/4 side split flange outlet (SAE Code 61)	SAE Split Flange Ports - No integrated valves
342	1 1/4 side split flange inlet, 3/4 side split flange outlet (SAE Code 61)	
401	No inlet, 1/2-14 side outlet	
402	3/4-14 side inlet, 1/2-14 side outlet	
403	1-11 side inlet, 1/2-14 side outlet	British Standard Pipe Parallel (BSPP) threads - No integrated valves
404	1 1/4-11 side inlet, 1/2-14 side outlet	
405	No inlet, 3/4-14 side outlet	
407	1-11 side inlet, 3/4-14 side outlet	
408	1 1/4-11 side inlet, 3/4-14 side outlet	
704	1 1/4 side tube inlet, 7/8-14 side ORB outlet	Beaded tube inlet port SAE O-ring boss outlet port No integrated valves
708	1 1/4 side tube inlet, 1 1/16-12 side ORB outlet	
716	1 1/2 side tube inlet, 1 1/16-12 side ORB outlet	
717	1 1/2 side tube inlet, 7/8-14 side ORB outlet	

S Displacement - Third Section

Code	Description	Code	Description
07	7.0 cm ³ /rev [0.43 in ³ /rev]	23	22.5 cm ³ /rev [1.37 in ³ /rev]
10	9.5 cm ³ /rev [0.58 in ³ /rev]	25	25.4 cm ³ /rev [1.55 in ³ /rev]
11	10.8 cm ³ /rev [0.66 in ³ /rev]	29	29.0 cm ³ /rev [1.77 in ³ /rev]
13	12.6 cm ³ /rev [0.77 in ³ /rev]	32	31.8 cm ³ /rev [1.94 in ³ /rev]
14	14.3 cm ³ /rev [0.87 in ³ /rev]	36	36.1 cm ³ /rev [2.20 in ³ /rev]
17	17.0 cm ³ /rev [1.04 in ³ /rev]	38	38.0 cm ³ /rev [2.32 in ³ /rev]
19	19.0 cm ³ /rev [1.16 in ³ /rev]	41	41.0 cm ³ /rev [2.50 in ³ /rev]
21	20.5 cm ³ /rev [1.25 in ³ /rev]	45	45.1 cm ³ /rev [2.75 in ³ /rev]





D Rear Cover: Port Options, Integrated Valves and Auxiliary Flange

Code	Inlet	Outlet	Description
N101	1 1/16-12 side inlet	7/8-14 side outlet	SAE O-ring boss ports No integrated valves No auxiliary flange
N103	1 5/16-12 side inlet	7/8-14 side outlet	
N104	1 5/16-12 side inlet	1 1/16-12 side outlet	
N125	1 5/8-12 side inlet	1 1/16-12 side outlet	
N126	No inlet	1 1/16-12 side outlet	
N501	1 1/16-12 rear inlet	7/8-14 rear outlet	
N503	1 5/16-12 rear inlet	7/8-14 rear outlet	SAE Metric Ports – No Integrated Valves
N504	1 5/16-12 rear inlet	1 1/16-12 rear outlet	
N252	M33x2-6H rear inlet	M22x1.5-6H side outlet	
N254	M33x2-6H rear inlet	M22x1.5-6H side outlet	
N401	No inlet	1/2-14 side outlet	
N402	3/4-14 side inlet	1/2-14 side outlet	
N403	1-11 side inlet	1/2-14 side outlet	British Standard Pipe Parallel (BSPP) threads - No integrated valves
N404	1 1/4-11 side inlet	1/2-14 side outlet	
N407	1-11 side inlet	3/4-14 side outlet	
N408	1 1/4-11 side inlet	3/4-14 side outlet	
N341	No inlet	3/4 side split flange outlet (SAE code 61)	SAE split flange ports No integrated valves No auxiliary flange
N342	1 1/4 side split flange inlet	3/4 side split flange outlet (SAE code 61)	
N704	1 1/4 side tube inlet	7/8-14 side ORB outlet	Beaded tube inlet port, SAE O-ring boss outlet port No integrated valves No auxiliary flange
N708	1 1/4 side tube inlet	1 1/16-12 side ORB outlet	
N715	1 1/4 REAR tube inlet	1 1/16-12 REAR ORB outlet	
N716	1 1/2 side tube inlet	1 1/16-12 side ORB outlet	
N720	1 1/4 REAR tube inlet	7/8-14 REAR ORB outlet	

* Integrated auxiliary flange requires use of input shaft option AH or AC

** Requires use of mounting flange option AC or AP

*** Requires use of mounting flange option BC or BP



D Rear Cover: Port Options, Integrated Valves and Auxiliary Flange

Code	Inlet	Outlet	Description
F09A**	1 5/16-12 side inlet, 3/4-16 side priority, 7/8-14 side secondary (SAE A flange)	Integrated Priority Flow Divider, cartridge style relief for settings up to: 221bar and 34.3 l/min [3200 psi and 9 US gal/min]	
F09B***	1 5/16-12 side inlet, 3/4-16 side priority, 7/8-14 side secondary (SAE B flange)		
F13A**	1 5/8-12 rear inlet, 3/4-16 rear priority, 7/8-14 rear secondary (SAE A flange)		
F13B***	1 5/8-12 rear inlet, 3/4-16 rear priority, 7/8-14 rear secondary (SAE B flange)		
F21A**	1 5/8-12 side inlet, 3/4-16 side priority, 7/8-14 side secondary (SAE A flange)		
F21B***	1 5/8-12 side inlet, 3/4-16 side priority, 7/8-14 side secondary (SAE B flange)		
F25A**	1 5/16-12 rear inlet, 3/4-16 rear priority, 7/8-14 rear secondary (SAE A flange)		
F25B***	1 5/16-12 rear inlet, 3/4-16 rear priority, 7/8-14 rear secondary (SAE B flange)		
D23A*	1 5/16-12 side inlet, 3/4-16 side priority, no secondary port (SAE A flange)	Integrated Steering Cover, Priority Relief Valve (Cartridge Style) for settings up to: 221 bar and 34.3 l/min [3200 psi and 9 US gal/min]	
D23B**	1 5/16-12 side inlet, 3/4-16 side priority, no secondary port (SAE B flange)		
D24A*	1 5/16-12 rear inlet, 3/4-16 rear priority, no secondary port (SAE A flange)		
D24B**	1 5/16-12 rear inlet, 3/4-16 rear priority, no secondary port (SAE B flange)		
L01A**	1 5/16-12 side inlet, 3/4-16 side priority, 7/8-14 side secondary, 7/16-20 side LS (SAE-A flange)	Integrated Load Sense Divider (Dynamic), Priority Relief Valve	
L01B***	1 5/16-12 side inlet, 3/4-16 side priority, 7/8-14 side secondary, 7/16-20 side LS (SAE-B flange)		
L08A**	1 5/16-12 rear inlet, 3/4-16 rear priority, 7/8-14 rear secondary, 7/16-20 rear LS (SAE-A flange)		
L08B***	1 5/16-12 rear inlet, 3/4-16 rear priority, 7/8-14 rear secondary, 7/16-20 rear LS (SAE-B flange)		



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B103*	1 5/16-12 side inlet	7/8-14 side outlet,	SAE-A 2-Bolt Auxiliary Flange SAE O-ring boss ports
B104*	1 5/16-12 side inlet	1 1/16-12 side outlet	No integrated valves
R104	1 5/16-12 side inlet	1 1/16-12 side outlet	Integrated Relief Valve Internally Drained Maximum Displacement 23cc

* Integrated auxiliary flange requires use of input shaft option AH or AC

** Requires use of mounting flange option AC or AP

*** Requires use of mounting flange option BC or BP

A variety of integrated valve options including PFD, Steering Covers, and Load sense priority flow dividers covers are available with D Series multiple pumps. Please contact your technical representative to determine which hardware best suits specific application needs.

E Flow Control Valve

Code	Description	
NNN	No flow control setting, standard for units without integrated flow control valves	
04X	3.8 l/min [1 US gal/min]	For integrated PFD Steering cover with cartridge style relief valve (Cover options F09A, F09B, F13A, F13B, F21A, F21B, F25A or F25B)
08X	7.6 l/min [2 US gal/min]	
11X	11.4 l/min [3 US gal/min]	
15X	15.1 l/min [4 US gal/min]	
19X	18.9 l/min [5 US gal/min]	
23X	22.7 l/min [6 US gal/min]	
27X	26.5 l/min [7 US gal/min]	
30X	30.3 l/min [8 US gal/min]	
34X	34.3 l/min [9 US gal/min]	
38A	10 bar standby	For integrated load sense divider (use with L08A or L08B rear ports)
38L	10 bar standby	For integrated load sense divider (use with L01A or L01B side ports)
R1N	Maximum flow not to exceed 75 l/min, pressure range from 7-55 bar	For integrated relief valve, internally drained (without flow control) Use with R104 cover option 23cc and under
R2N	Maximum flow not to exceed 75 l/min, pressure range from 41-248 bar	For integrated relief valve, internally drained (without flow control) Use with R104 cover option 23cc and under



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F Pressure Control Valve

Code	Description
000	No pressure control settings
034	34 bar [500 psi]
041	41 bar [600 psi]
048	48 bar [700 psi]
055	55 bar [800 psi]
062	62 bar [900 psi]
069	69 bar [1000 psi]
076	76 bar [1100 psi]
083	83 bar [1200 psi]
090	90 bar [1300 psi]
097	97 bar [1400 psi]
103	103 bar [1500 psi]
110	110 bar [1600 psi]
117	117 bar [1700 psi]
124	124 bar [1800 psi]
131	131 bar [1900 psi]
138	138 bar [2000 psi]
145	145 bar [2100 psi]
152	152 bar [2200 psi]
159	159 bar [2300 psi]
165	165 bar [2400 psi]
172	172 bar [2500 psi]
179	179 bar [2600 psi]
186	186 bar [2700 psi]
193	193 bar [2800 psi]
200	200 bar [2900 psi]
207	207 bar [3000 psi]
214	214 bar [3100 psi]
221	221 bar [3200 psi]

Change Description to:
 For integrated priority flow divider (PFD) cover with cartridge style relief valve
 (Cover options F09A, F09B, F13A, F13B, F21A, F21B, F25A, F25B)
 and
 For integrated steering cover with cartridge style relief valve
 (Cover options D23A, D23B, D24A, D24B)
 and
 For integrated load sense (LS) cover with cartridge relief valve
 (Cover options L01A, L01B, L08A, L08B)



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H Assembly Screws

Code	Description
**	Will be assigned by Turolla upon receipt of order

J Nameplate

Code	Description
AN	Standard nameplate

K Special Feature

Code	Description
NNN	No special features, standard black paint