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Hydraulics Division
Eaton / Char-Lynn® Hydraulic Products

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OUT OF PRINT



We Manufacture

Solutions

-
- Experienced system design engineers - Systems-based solutions to all your hydraulic needs.
 - Global manufacturing capability - Manufacturing plants and joint ventures in the U.S., Europe, Japan and China.
 - Global sales support - Sales offices in the U.S., Scotland, Germany, Singapore, China and Korea.
 - World's largest distributor network - Over 100 distributors in 50 different countries.
 - Reliable, robust products - Field-proven leader in the hydraulics industry.
 - Exceptional product quality - All products manufactured in ISO 9001-certified sites.



Char-Lynn® Motors

Spool Valve Low-Speed/High-Torque Motors	4
Disc Valve Low-Speed/High-Torque Motors	6

Valve-in-Star™

Model VIS 30	8
Model VIS 45	8

Light Duty Products

Pumps & Motors	9
Transaxles	10

Medium Duty Piston Products

Manual Variable Displacement Pumps	12
Pressure or Pressure-Flow Compensated Pumps	13
Servo Controlled Variable Pumps	13
Fixed Displacement Motors	14
Variable Displacement Motor	15

Heavy Duty Piston Products

Series 1 Variable Displacement Pumps	16
Series 2 Variable Displacement Pumps	17
Fixed Displacement Motors	18
Variable Displacement Motors	19

Controls

Remote Electric (RE) Control	20
Electronic Proportional (EP)	20
Displacement Control for the Heavy Duty Series 1 Pump	20
CAN Multiplex (MUX) Control	21

Char-Lynn® Power Steering Units

Steering Control Units	22
Torque Generators	27
Steering Columns	27

Gear Products

Fixed Displacement Pumps	28
Motors	29

Cartridge Valves

Standard and Custom Cartridge Valve Assemblies	31
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Valves

Relief Valves	32
Flow Divider Valves	32
In-Line Self Level Valve	32
In-Line Flow Control Valve	33
Monoblock™ Directional Control Valves	33
Backhoe Stabilizer Valve	34
Power Brake Valve	34
Electrohydraulic Proportional Valve	34

Cylinders

Single / Double Acting	35
Wyr-Loc®	35

Important Note: Information in this catalog is accurate as of the publication date and is subject to change without notice. Performance values are typical values. Customers are responsible for selecting products for their applications using conventional engineering methods. Contact your Eaton representative for current information.

Char-Lynn® Spool Valve Low-Speed/High-Torque Motors



J Series

Motor Element Geroler®

Displacement (4) 8,2 cm³/r [.50 in³/r]
 12,9 cm³/r [.79 in³/r]
 19,8 cm³/r [1.21 in³/r]
 31,6 cm³/r [1.93 in³/r]

Flow Range - L/Min. [GPM]
 Continuous 17 - 21 [14.5 - 5.5]
 Intermittent 21 - 25 [5.5 - 6.5]

Speed Range 2065 - 657 RPM (Max.)

Pressure Range - ΔBar [ΔPSI]
 Continuous 140 - 120 [2030 - 1740]
 Intermittent 165 - 150 [2400 - 2175]

Torque Range - Nm [lb-in]
 Continuous 14 - 52 [123 - 440]
 Intermittent 16 - 65 [145 - 550]



H Series

Motor Element Gerotor

Displacement (13) 36 cm³/r [2.2 in³/r]
 46 cm³/r [2.8 in³/r]
 59 cm³/r [3.6 in³/r]
 74 cm³/r [4.5 in³/r]
 97 cm³/r [5.9 in³/r]
 120 cm³/r [7.3 in³/r]
 146 cm³/r [8.9 in³/r]
 159 cm³/r [9.7 in³/r]
 185 cm³/r [11.3 in³/r]
 231 cm³/r [14.1 in³/r]
 293 cm³/r [17.9 in³/r]
 370 cm³/r [22.6 in³/r]
 739 cm³/r [45.1 in³/r]

Flow Range - L/Min. [GPM]
 Continuous 38 - 57 [10 - 15]
 Intermittent 38 - 76 [10 - 20]

Speed Range 1021 - 74 RPM (Max.)

Pressure Range - Δ Bar [ΔPSI]
 Continuous 125 - 40 [1800 - 600]
 Intermittent 165 - 55 [2400 - 800]

Torque Range - Nm [lb-in]
 Continuous 55 - 405 [495 - 3605]
 Intermittent 75 - 520 [670 - 4600]

NOTE: For illustration purposes, all photographs in this catalog show Eaton and Char-Lynn products painted blue with chrome plating. Products are shipped from the factory unpainted or with primer. Corrosion-resistant coatings are available on some product lines.



S Series

Motor Element	Geroler
Displacement (10)	59 cm ³ /r [3.6 in ³ /r] 74 cm ³ /r [4.5 in ³ /r] 97 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r] 146 cm ³ /r [8.9 in ³ /r] 159 cm ³ /r [9.7 in ³ /r] 185 cm ³ /r [11.3 in ³ /r] 231 cm ³ /r [14.1 in ³ /r] 293 cm ³ /r [17.9 in ³ /r] 370 cm ³ /r [22.6 in ³ /r]
Flow Range - L/Min. [GPM]	
Continuous	57 - 57 [15-15]
Intermittent	68 - 76 [18-20]
Speed Range	962 - 153 RPM (Max.)
Pressure Range - ΔBar [ΔPSI]	
Continuous	140 - 90 [2000 - 1300]
Intermittent	170 - 105 [2500 - 1500]
Torque Range - Nm [lb-in]	
Continuous	105 - 450 [945 - 4000]
Intermittent	135 - 515 [1175 - 4550]



T Series

Motor Element	Geroler
Displacement (11)	36 cm ³ /r [2.2 in ³ /r] 49 cm ³ /r [3.0 in ³ /r] 66 cm ³ /r [4.0 in ³ /r] 80 cm ³ /r [4.9 in ³ /r] 102 cm ³ /r [6.2 in ³ /r] 131 cm ³ /r [8.0 in ³ /r] 157 cm ³ /r [9.6 in ³ /r] 195 cm ³ /r [11.9 in ³ /r] 244 cm ³ /r [14.9 in ³ /r] 306 cm ³ /r [18.7 in ³ /r] 370 cm ³ /r [22.6 in ³ /r]
Flow Range - L/Min. [GPM]	
Continuous	38 - 57 [10 - 15]
Intermittent	38 - 76 [10 - 20]
Speed Range	1021 - 152 RPM (Max.)
Pressure Range - ΔBar [ΔPSI]	
Continuous	155 - 90 [2250 - 1300]
Intermittent	190 - 105 [2750 - 1500]
Torque Range - Nm [lb-in]	
Continuous	75 - 440 [670 - 3905]
Intermittent	95 - 510 [825 - 4515]



W Series

Motor Element	Geroler®
Displacement (11)	80 cm ³ /r [4.9 in ³ /r] 126 cm ³ /r [7.7 in ³ /r] 154 cm ³ /r [9.4 in ³ /r] 195 cm ³ /r [11.9 in ³ /r] 251 cm ³ /r [15.3 in ³ /r] 303 cm ³ /r [18.5 in ³ /r] 374 cm ³ /r [22.8 in ³ /r]
Flow Range - L/Min. [GPM]	
Continuous	17 - 57 [4.5 - 15]
Intermittent	17 - 76 [4.5 - 20]
Speed Range	200 - 200 RPM (Max.)
Pressure Range - Δ Bar [Δ PSI]	
Continuous	155 - 90 [2250 - 1300]
Intermittent	172 - 103 [2500 - 1500]
Torque Range - Nm [lb-in]	
Continuous	173 - 473 [1532 - 4186]
Intermittent	191 - 500 [1692 - 4427]



W Series Motor
with optional brake.

Char-Lynn® Disc Valve Low-Speed/High-Torque Motors



2000 Series

Motor Element Geroler

Displacements (9) 80 cm³/r [4.9 in³/r]
 100 cm³/r [8.21 in³/r]
 130 cm³/r [8.0 in³/r]
 160 cm³/r [9.6 in³/r]
 195 cm³/r [11.9 in³/r]
 245 cm³/r [14.9 in³/r]
 305 cm³/r [18.7 in³/r]
 395 cm³/r [24.0 in³/r]
 490 cm³/r [29.8 in³/r]

Flow Range - L/Min [GPM]

Continuous 75 - 75 [20 - 20]
 Intermittent 75 - 130 [20 - 35]

Speed Range

Continuous 908 - 153 RPM (Max.)
 Intermittent 924 - 230 RPM (Max.)

Pressure Range - ΔBar [ΔPSI]

Continuous 205 - 120 [3000 - 1750]
 Intermittent 310 - 140 [4500 - 2000]
 Peak 310 - 170 [4500 - 2500]

Torque Range - Nm [lb-in]

Continuous 235 - 845 [2065 - 7470]
 Intermittent 345 - 930 [3035 - 8225]



4000 Series

Motor Element Geroler

Displacements (9) 110 cm³/r [6.7 in³/r]
 130 cm³/r [7.9 in³/r]
 160 cm³/r [9.9 in³/r]
 205 cm³/r [12.5 in³/r]
 245 cm³/r [15.0 in³/r]
 310 cm³/r [19.0 in³/r]
 395 cm³/r [24.0 in³/r]
 495 cm³/r [30.0 in³/r]
 625 cm³/r [38.0 in³/r]

Flow Range - L/Min [GPM]

Continuous 75 - 95 [20 - 25] Cont.
 Intermittent 95 - 150 [25 - 40] Inter.

Speed Range

Continuous 697 - 151 RPM (Max.)
 Intermittent 868 - 241 RPM (Max.)

Pressure Range - ΔBar [ΔPSI]

Continuous 205 - 115 [3000 - 1700]
 Intermittent 310 - 140 [4500 - 2000]
 Peak 310 - 295 [4500 - 4250]

Torque Range - Nm [lb-in]

Continuous 320 - 970 [2850 - 8605]
 Intermittent 470 - 1185 [4160 - 10470]



6000 Series

Motor Element Geroler

Displacements (7) .. 195 cm³/r [11.9 in³/r]
 245 cm³/r [15.0 in³/r]
 310 cm³/r [19.0 in³/r]
 390 cm³/r [23.9 in³/r]
 490 cm³/r [30.0 in³/r]
 625 cm³/r [38.0 in³/r]
 985 cm³/r [60.0 in³/r]

Flow Range - L/Min [GPM]

Continuous 150 - 150 [40 - 40]
 Intermittent 170 - 225 [45 - 60]

Speed Range

Continuous 775 - 153 RPM (Max.)
 Intermittent 866 - 230 RPM (Max.)

Pressure Range - Δ Bar [ΔPSI]

Continuous 205 - 140 [3000 - 2000]
 Intermittent 310 - 404 [4500 - 2000]
 Peak 310 - 170 [4500 - 2252]

Torque Range - Nm [lb-in]

Continuous 575 - 1685 [5100-14920]
 Intermittent 860 - 1873 [7620-16580]

**10,000 Series**

Motor Element Geroler

Displacements (4) 345 cm³/r [21.0 in³/r]
 480 cm³/r [29.3 in³/r]
 665 cm³/r [40.5 in³/r]
 940 cm³/r [57.4 in³/r]

Flow Range (No) - L/Min. [GPM]

Continuous 170 - 170 [45 - 45]
 Intermittent 265 - 265 [70 - 70]

Speed Range

Continuous 501 - 179 RPM (Max.)
 Intermittent 784 - 279 RPM (Max.)

Pressure Range - Δ Bar [ΔPSI]

Continuous 205 - 190 [3000 - 2750]
 Intermittent 275 - 240 [4000 - 3500]
 Peak 275 - 260 [4000 - 3750]

Torque Range - Nm [lb-in]

Continuous 1040 - 2700
 [9220 - 23910]
 Intermittent 1390 - 3440
 [12310 - 30460]

**2000 Series Two Speed**

Motor Element Geroler

Displ. HSLT (9) 40 cm³/r [2.4 in³/r]
 50 cm³/r [3.1 in³/r]
 65 cm³/r [4.0 in³/r]
 80 cm³/r [4.0 in³/r]
 95 cm³/r [5.9 in³/r]
 120 cm³/r [7.4 in³/r]
 155 cm³/r [9.3 in³/r]
 195 cm³/r [12.0 in³/r]
 245 cm³/r [15.0 in³/r]

Displ. LSHT (9) 80 cm³/r [4.0 in³/r]
 100 cm³/r [6.2 in³/r]
 130 cm³/r [8.0 in³/r]
 160 cm³/r [9.6 in³/r]
 195 cm³/r [11.9 in³/r]
 245 cm³/r [14.9 in³/r]
 305 cm³/r [18.7 in³/r]
 395 cm³/r [24.0 in³/r]
 490 cm³/r [29.8 in³/r]

Flow Range (No)- L/iMin. [GPM]

HSLT 45 - 75 [12 - 20]
 LSHT 45 - 75 [12 - 20]

Speed Range

HSLT 100 - 115 RPM (Max.)
 LSHT 500 - 230 RPM (Max.)

Pressure Range - ΔBar [ΔPSI]

Continuous 205 - 120 [3000 - 1750]
 Intermittent 310 - 140 [4500 - 2000]

Torque Range - Nm [lb-in]

HSLT (Continuous) . 100 - 486 [1880 - 4300]
 (Intermittent) 145 - 488 [1300 - 3970]
 LSHT (Continuous) . 235 - 845 [2065-7470]
 (Intermittent) 345 - 930 [3040 - 8225]

**10,000 Series - Two Speed**

Motor Element Geroler

Displ. HSLT (4) 169 cm³/r [10.3 in³/r]
 239 cm³/r [14.6 in³/r]
 333 cm³/r [20.3 in³/r]
 470 cm³/r [28.7 in³/r]

Displ. LSHT (4) 345 cm³/r [21.0 in³/r]
 480 cm³/r [29.3 in³/r]
 665 cm³/r [40.6 in³/r]
 940 cm³/r [57.4 in³/r]

Flow Range (No) - L/Min. [GPM]

HSLT 130 - 170 [35 - 45]
 LSHT 130 - 170 [35 - 45]

Speed Range

HSLT 750 - 400 RPM (Max.)
 LSHT 375 - 200 RPM (Max.)

Pressure Range - ΔBar [ΔPSI]

Continuous 205 - 190 [3000 - 2750]
 Intermittent 275 - 240 [4000 - 3500]

Torque Range - Nm [lb-in]

HSLT (Continuous) . 440 - 1175
 [3900 - 10400]
 (Intermittent) 585 - 1470
 [5200 - 13000]

Nm [lb-in]

LSHT (Continuous) . 1015 - 2710
 [9000-24000]
 (Intermittent) 1355 - 3445
 [12000 - 30500]

Valve-in-Star™ Low-Speed/High-Torque Motors



Model VIS 30

Motor Element	Geroler®
Displacements (5)	246 cm³/r [15.0 in³/r] 323 cm³/r [19.7 in³/r] 397 cm³/r [24.2 in³/r] 492 cm³/r [30.0 in³/r] 623 cm³/r [38.0 in³/r]
Flow - L/min. [GPM]	
Continuous	114 [30]
Intermittent	132 [35]
Speed	Up to 539 RPM
Pressure - Bar [PSI]	
Continuous	207 [3000]
Intermittent	345 [5000]
Peak	380 [5500]
Torque Output - Nm [lb-in]	
Continuous	1520 [13,457]
Intermittent	1910 [16,904]
Peak	2101 [18,595]



Model VIS 45

Motor Element	Geroler®
Displacements (7)	520 cm³/r [31.7 in³/r] 572 cm³/r [34.9 in³/r] 636 cm³/r [38.8 in³/r] 803 cm³/r [49.0 in³/r] 991 cm³/r [60.5 in³/r] 1245 cm³/r [76.0 in³/r] 1557 cm³/r [95.0 in³/r]
Flow - L/min. [GPM]	
Continuous	170 [45]
Intermittent	189 [50]
Speed	Up to 364 RPM
Pressure - Bar [PSI]	
Continuous	207 [3000]
Intermittent	345 [5000]
Peak	380 [5500]
Torque Output - Nm [lb-in]	
Continuous	3801 [33,642]
Intermittent	5142 [45,512]
Peak	5656 [50,063]

Light Duty Pumps and Motors

Variable Displacement Pumps with Fixed Displacement Motors



Model 6 and Model 7

Pump Element Ball Piston
Displacement (Var.) 0 - 7,6 cm³/r [.465 in³/r]
Motor Element Ball Piston
Displacement (Fixed) 12,6 cm³/r [.767 in³/r]
Speed
 Input 3600 RPM (Max.)
 Output 2150 RPM (Max.)
Power Input @ 3600 RPM .. 3 kW [4 HP] (Max.)
Torque Output - Nm [lb-in]
 Continuous 14 [120]
 Intermittent 20 [180]
 Peak 27 [240]
Operating Temp. 82° C [180° F] (Max.)



Model 11

Pump Element Ball Piston
Displacement (Var.) 0 - 19 cm³/r [1.15 in³/r]
Motor Element Ball Piston
Displacement (Fixed) 34,2 cm³/r [2.09 in³/r]
Speed
 Input 3600 RPM (Max.)
 Output 1950 RPM (Max.)
Power Input @ 3600 RPM .. 15 kW [20 HP] (Max.)
Torque Output - Nm [lb-in]
 Continuous 41 [360]
 Intermittent 61 [540]
 Peak 81 [720]
Operating Temp. 82° C [180° F] (Max.)

Light Duty Ball Piston Pump

Variable Displacement Pump



Model 11

Pump Element Ball Piston
Displacement 0 - 19 cm³/r [1.15 in³/r]
Flow @ Rated Speed
 and Pressure 62,5 L/min. [16.5 GPM]
Speed
 Input 3600 RPM (Max.)
Power Input @ 3600 RPM .. 15 kW [20 HP] (Max.)
Operating Pressure (Max.) - Bar [PSI]
 Continuous 86,2 [1250] Continuous
 Intermittent 120,7 [1750] Intermittent
 Peak 155,2 [2250] Peak

Auxiliary Charge Pump

Flow @ 3,4 Bar [50 PSI] and 3600 RPM
 L/Min. [GPM] 15 [4.0]
Operating Pressure - Bar [PSI]
 Standard 34 [500] (Max.)
 Option 55 [800] (Max.)
Operating Temp. 82° C [180° F] (Max.)

Light Duty Transaxles



Model 751
Pump Element Ball Piston
Motor Element Ball Piston
Speed
 Input 3600 RPM (Max.)
 Output 110 RPM (Max.)
Power Input @ 3600 RPM .. 3 kW [4 HP] (Max.)
Power In/Torque Out
 Continuous In 3 kW [4 HP]
 Out 294 Nm [217 lb-ft]
 Intermittent In 4,3 kW [5.7 HP]
 Out 413 Nm [305 lb-ft]
 Peak In 5,7 kW [7.6 HP]
 Out 531 Nm [392 lb-ft]
Operating Temp. 82° C [180° F] (Max.)
Weight Over Axle 408 kg [900 lb] (Max.)



Model 851
Pump Element Ball Piston
Motor Element Ball Piston
Speed
 Input 3900 RPM (Max.)
 Output 112 RPM (Max.)
Power Input @ 3600 RPM .. 4 kw [5.4 HP] (Max.)
Power In/Torque Out
 Continuous In 4 kW [5.4 HP]
 Out 439 Nm [324 lb-ft]
 Intermittent In 6,3 kW [8.4 HP]
 Out 616 Nm [454 lb-ft]
 Peak In 11,4 kW [15.2 HP]
 Out 790 Nm [583 lb-ft]
Operating Temp. 82° C [180° F] (Max.)
Weight Over Axle 408 kg [900 lb] (Max.)



Model 771
Pump Element Ball Piston
Motor Element Ball Piston
Speed
In 3600 RPM (Max.)
Out 153 RPM (Max.)
Power Input @ 3600 RPM .. 4 kW [5.4 HP] (Max.)
Power In/Torque Out*
Continuous In 4 kW [5.4 HP]
Out 439 Nm [324 lb-ft]
Intermittent In 10,2 kW [7.6 HP]
Out 616 Nm [454 lb-ft]
Peak In 14,8 kW [11.0 HP]
Out 790 Nm [583 lb-ft]
Operating Temp. 82° C [180° F] (Max.)
Weight Over Axle 204 kg [450 lb] (Max.)



Model 781
Pump Element Ball Piston
Motor Element Ball Piston
Speed
In 3600 RPM (Max.)
Out 153 RPM (Max.)
Power Input @ 3600 RPM .. 4 kW [5.4 HP] (Max.)
Power In/Torque Out*
Continuous In 4 kW [5.4 HP]
Out 439 Nm [324 lb-ft]
Intermittent In 10,2 kW [7.6 HP]
Out 616 Nm [454 lb-ft]
Peak In 14,8 kW [11.0 HP]
Out 790 Nm [583 lb-ft]
Operating Temp. 82° C [180° F] (Max.)
Weight Over Axle 408 kg [900 lb] (Max.)

*(Each Side)



Model 778
Pump Element Ball Piston
Motor Element Ball Piston
Speed
In 3200 RPM (Max.)
Out 121 RPM (Max.)
Power Input @ 3200 RPM .. 2,3 kW [3 HP]
Power In/Torque Out*
Continuous In 2,3 kW [3 HP]
Out 217 Nm [160 lb-ft]
Operating Temp. 82° C [180° F] (Max.)
Weight Over Axle 181 kg [400 lb] (Max.)



Medium Duty Piston Pumps

Manual Variable Displacement Pumps



Model 70160

Pump Element Piston
 Displacement 0 - 20.3 cm³/r [1.24 in³/r]
 Flow @ Rated Speed & Pressure
 L/Min. [GPM] 64,3 [17]
 Speed Input 3600 RPM (Max.)
 Power Input @ 3200 RPM .. 26 kW [35 HP] (Max.)
 Operating Pressure - Bar [PSI]
 Continuous 207 [3000] (Max.)
 Intermittent 345 [5000] (Max.)
 Operating Temp. 107°C [225°F] (Max.)
 Mounting Flange SAE 2-Bolt "A"

Model 70160

Pump Element Piston
 Displacement 0 - 23,6 cm³/r [1.44 in³/r]
 Flow @ Rated Speed & Pressure
 L/Min. [GPM] 75,7 [20]
 Speed Input 3600 RPM (Max.)
 Power Input@ 3600 RPM ... 26 kW [35 HP] (Max.)
 Operating Pressure - Bar [PSI]
 Continuous 207 [3000] (Max.)
 Intermittent 345 [5000] (Max.)
 Mounting Flange SAE 2-Bolt "A"

Model 70360

Pump Element Piston
 Displacement 0 - 40,6 cm³/r [2.48 in³/r]
 Flow @ Rated Speed & Pressure
 L/Min. [GPM] 140 [37]
 Speed Input 3600 RPM (Max.)
 Power Input @ 3600 RPM .. 55 kW [74 HP] (Max.)
 Operating Pressure - Bar [PSI]
 Continuous 207 [3000] (Max.)
 Intermittent 345 [5000] (Max.)
 Operating Temp. 107°C [225°F] (Max.)
 Mounting Flange SAE 2-Bolt "B"

Model 70360

Pump Element Piston
 Displacement 0 - 49,2 cm³/r [3.00 in³/r]
 Flow @ Rated Speed & Pressure
 L/Min. [GPM] 169 [45]
 Speed Input 3600 RPM (Max.)
 Power Input @ 3600 RPM .. 55 kW [74 HP] (Max.)
 Operating Pressure - Bar [PSI]
 Continuous 172 [2500] (Max.)
 Intermittent 286 [4150] (Max.)
 Mounting Flange SAE 2-Bolt "B" or "BB"

Auxiliary Charge Pump

Pump Element Gerotor
 Displacement
 Single (Std.) 6,9 [.42]
 Tandem (Std.) 13,8 [.84] Tandem

Controls

Medium duty piston pumps may be used with Eaton's hydraulic remote and electronic proportional controls (see pages 18-19 for details).

Servo Controlled Variable Pumps



Model 72400

Pump Element Piston
 Displacement 0 - 40,6 cm³/r [2.48 in³/r]
 Flow @ Rated Speed & Pressure
 L/Min. [GPM] 140 [37]
 Speed Input 3600 RPM (Max.)
 Power Input @ 2500 RPM .. 52 kW [70 HP] (Max.)
 Operating Pressure - Bar [PSI]
 Continuous 210 [3000] (Max.)
 Intermittent 345 [5000] (Max.)
 Mounting Flange SAE 2-Bolt "B"

Model 72400

Pump Element Piston
 Displacement 0 - 49,2 cm³/r [3.00 in³/r]
 Flow @ Rated Speed & Pressure
 L/Min. [GPM] 170 [44.8]
 Speed Input 3600 RPM (Max.)
 Power Input @ 2500 RPM .. 52 kW [70 HP] (Max.)
 Operating Pressure - Bar [PSI]
 Continuous 172 [2500] (Max.)
 Intermittent 286 [4150] (Max.)
 Mounting Flange SAE 2-Bolt "B"

Auxiliary Charge Pump

Pump Element Gerotor
 Displacement
 Single (Std.) 6,9 [.42] Single
 Tandem (Std.) 13,8 [.84] Tandem
 15,2 [1.05]

Pressure or Pressure-Flow Compensated Pumps



Model 70122

Pump Element Piston
Displacement 0 - 19 cm³/r [1.16 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 41,6 [11]
Speed Input 2500 RPM (Max.)
Power Input @ 2500 RPM .. 20 kW [27 HP] (Max.)
Operating Pressure - Bar [PSI]
Continuous 207 [3000] (Max.)
Intermittent 276 [4000] (Max.)
Mounting Flange SAE 2-Bolt "A"

Model 70422

Pump Element Piston
Displacement 0 - 38 cm³/r [2.32 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 98,4 [26]
Speed Input 2700 RPM (Max.)
Power Input @ 2500 RPM .. 40 kW [54 HP] (Max.)
Operating Pressure - Bar [PSI]
Continuous 207 [3000] (Max.)
Intermittent 276 [4000]
Mounting Flange SAE 2-Bolt "B"

Model 70423

Pump Element Piston
Displacement 0 - 45 cm³/r [2.77 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 125 [33]
Speed Input 3000 RPM (Max.)
Power Input @ 2500 RPM .. 60 kW [80 HP] (Max.)
Operating Pressure - Bar [PSI]
Continuous 207 [3000] (Max.)
Intermittent 262 [3800] (Max.)
Mounting Flange SAE 2-Bolt "B"

Model 70523

Pump Element Piston
Displacement 0 - 69 cm³/r [4.21 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 159 [42]
Speed Input 2500 RPM (Max.)
Power Input @ 2500 RPM .. 70 kW [94 HP] (Max.)
Operating Pressure - Bar [PSI]
Continuous 207 [3000] (Max.)
Intermittent 310 [4500] (Max.)
Mounting Flange SAE 4-Bolt "C"



Medium Duty Piston Motors

Fixed Displacement Motors



Model 74111

Motor Element Piston
 Displacement 12,3 cm³/r [0.75 in³/r]
 Rated Flow @ Rated Speed & Pressure
 L/Min. [GPM] 64 [16.9]
 Speed, Rated 4500 RPM (Max.)
 Pressure Bar [PSI]
 Continuous 207 [3000]
 Intermittent 372,4 [5400] (Max.)
 Torque @ Rated Speed & Pressure
 Nm [lb-in] 29 [260]

Model 74118

Motor Element Piston
 Displacement 20,3 cm³/r [1.24 in³/r]
 Rated Flow @ Rated Speed & Pressure
 L/Min. [GPM] 78,7 [20.8]
 Speed, Rated 3600 RPM (Max.)
 Pressure Bar [PSI]
 Continuous 207 [3000]
 Intermittent 372,4 [5400] (Max.)
 Torque @ Rated Speed & Pressure
 Nm [lb-in] 62 [550]

Model 74318

Motor Element Piston
 Displacement 40,6 cm³/r [2.48 in³/r]
 Rated Flow @ Rated Speed & Pressure
 L/Min. [GPM] 153,7 [40.6]
 Speed, Rated 3600 RPM (Max.)
 Pressure Bar [PSI]
 Continuous 207 [3000]
 Intermittent 345 [5000] (Max.)
 Torque @ Rated Speed and Pressure
 Nm [lb-in] 135,6 [1200]

Options Available

- Thru Shaft (Order Model 74348)
- Speed Pickup
- Hot Oil Shuttle



Model 74624

Motor Element Piston
 Displacement 82,6 cm³/r [5.04 in³/r]
 Rated Flow @ Rated Speed & Pressure
 L/Min. [GPM] 128,7 [34]
 Speed, Rated 1500 RPM (Max.)
 Pressure Bar [PSI]
 Continuous 241,4 [3500]
 Intermittent 267 [3900] (Max.)
 Torque @ Rated Speed & Pressure
 Nm [lb-in] 280,3 [2481]

Options Available

- Thru Shaft (Order Model 74144)

Variable Displacement Motor



Model 71302
Motor Element Piston
Displacement (Max.) 40,6 cm³/r [2.48 in³/r]
Flow @ Max. Displacement @ 17°
L/Min. [GPM] 126,4 [34]
Speed: @ 17° 3600 RPM (Max.)
 @ 9° 4500 RPM (Max.)
Torque @ Rated Speed & Pressure @ 17°
Nm [lb-in] 127 [1125]
Pressure Bar [PSI]
Continuous 210 [3000]
Intermittent 370 [5400] (Max.)



Model 71360
Motor Element Piston
Displacement (Max.) 40,6 cm³/r [2.48 in³/r]
Flow @ Max. Displacement @ 17°
L/Min. [GPM] 126,4 [34]
Speed: @ 17° 3600 RPM (Max.)
 @ 10° 5100 RPM (Max.)
Torque @ Rated Speed & Pressure @ 17°
Nm [lb-in] 127 [1125]
Pressure Bar [PSI]
Continuous 210 [3000]
Intermittent 370 [5400] (Max.)



Heavy Duty Piston Pumps - Series 1

Variable Displacement Pump



Model 33

Pump Element	Piston
Displacement	0 - 54,4 cm ³ /r [3.32 in ³ /r]
Flow @ Rated Speed & Pressure L/Min. [GPM]	233 [61.5]
Speed, Input	4510 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI] Nm [lb-in]	232 [2049]
Pressure Bar [PSI]	
Continuous	241 [3500] (Max.)
Intermittent	415 [6000] (Max.)

Model 39

Pump Element	Piston
Displacement	0 - 63,7 cm ³ /r [3.89 in ³ /r]
Flow @ Rated Speed & Pressure L/Min. [GPM]	255 [67.3]
Speed, Input (Max.)	4160 RPM
Torque, Input @ 241 Bar [3500 PSI] Nm [lb-in]	265 [2346]
Pressure Bar [PSI]	
Continuous	241 [3500] (Max.)
Intermittent	415 [6000] (Max.)

Model 46

Pump Element	Piston
Displacement	0 - 75,3 cm ³ /r [4.60 in ³ /r]
Flow @ Rated Speed & Pressure L/Min. [GPM]	300 [79.2]
Speed, Input	4160 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI] Nm [lb-in]	351 [2786]
Pressure Bar [PSI]	
Continuous	241 [3500] (Max.)
Intermittent	415 [6000] (Max.)

Model 54

Pump Element	Piston
Displacement	0 - 89,1 cm ³ /r [5.44 in ³ /r]
Flow @ Rated Speed & Pressure L/Min. [GPM]	318 [84.1]
Speed, Input	3720 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI] Nm [lb-in]	371 [3285]
Pressure Bar [PSI]	
Continuous	241 [3500] (Max.)
Intermittent	415 [6000] (Max.)

Model 64

Pump Element	Piston
Displacement	0 - 105, 5 cm ³ /r [6.44 in ³ /r]
Flow @ Rated Speed & Pressure L/Min. [GPM]	375 [99.1]
Speed, Input	3720 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI] Nm [lb-in]	441 [3900]
Pressure Bar [PSI]	
Continuous	241 [3500] (Max.)
Intermittent	415 [6000] (Max.)

Model 76

Pump Element	Piston
Displacement	0 - 124,8 cm ³ /r [7.62 in ³ /r]
Flow @ Rated Speed & Pressure L/Min. [GPM]	333 [87.9]
Speed, Input	2775 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI] Nm [lb-in]	514 [4552]
Pressure Bar [PSI]	
Continuous	241 [3500] (Max.)
Intermittent	415 [6000] (Max.)

Auxiliary Charge Pumps

Pump Element	Gerotor
Displacements (4)	13,9 cm ³ /r [.85 in ³ /r] 21,0 cm ³ /r [1.28 in ³ /r] 27,9 cm ³ /r [1.70 in ³ /r] 34,7 cm ³ /r [2.12 in ³ /r]
Output Flow @ Maximum Speed (Range)* L/Min. [GPM]	64,0 - 104,2 [16.9 - 27.5]
Input Power @ 15 Bar [220 PSI] & Max. Speed (Range)	1,62 - 2,64 kW [2.13 - 3.54 HP]
Operating Temp.	82°C [180°F] (Max.)

*Theoretical values.

Heavy Duty Piston Pumps - Series 2

Variable Displacement Pump



Model 33

Pump Element Piston
Displacement 0 - 54,4 cm³/r [3.32 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 235 [62.2]
Speed, Input 4510 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI]
Nm [lb-in] 218 [1944]
Pressure Bar [PSI]
Continuous 430 [6250] (Max.)

Model 39

Pump Element Piston
Displacement 0 - 63,7 cm³/r [3.89 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 255 [67.2]
Speed, Input 4165 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI]
Nm [lb-in] 256 [2278]
Pressure Bar [PSI]
Continuous 430 [6250] (Max.)

Model 46

Pump Element Piston
Displacement 0 - 75,4 cm³/r [4.59 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 301 [79.5]
Speed, Input 4510 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI]
Nm [lb-in] 303 [2694]
Pressure Bar [PSI]
Continuous 430 [6250] (Max.)

Model 54

Pump Element Piston
Displacement 0 - 89,2 cm³/r [5.44 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 318 [84.1]
Speed, Input 4510 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI]
Nm [lb-in] 358 [3189]
Pressure Bar [PSI]
Continuous 430 [6250] (Max.)

Model 64

Pump Element Piston
Displacement 0 - 105,5 cm³/r [6.44 in³/r]
Flow @ Rated Speed & Pressure
L/Min. [GPM] 376 [99.4]
Speed, Input 4510 RPM (Max.)
Torque, Input @ 241 Bar [3500 PSI]
Nm [lb-in] 424 [3771]
Pressure Bar [PSI]
Continuous 430 [6250] (Max.)

Auxiliary Charge Pumps

Pump Element Gerotor
Displacements (4) 17,4 cm³/r [1.06 in³/r]
21,0 cm³/r [1.28 in³/r]
27,9 cm³/r [1.70 in³/r]
34,7 cm³/r [2.12 in³/r]
Output Flow @ Maximum Speed (Range)*
L/Min. [GPM] 59,9 - 78,2 [15.8 - 20.6]
Input Power @ 21 Bar [305 PSI] & Max. Speed
(Range) 2,10 - 2,74 kW
[2.81 - 3.67 HP]
Operating Temp. 82°C [180°F] (Max.)

*Theoretical values.

Heavy Duty Piston Motors

Fixed Displacement Motors



Model 33

Motor Element Piston
 Displacement 54,4 cm³/r [3.32 in³/r]
 Flow - L/Min. [GPM] 231 [61]
 Speed (Max. / Min.) 4510 RPM / 50 RPM
 Torque - Nm [lb-in] 334 [2959] (Max.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 39

Motor Element Piston
 Displacement 54,4 cm³/r [3.32 in³/r]
 Flow - L/Min. [GPM] 231 [61]
 Speed (Max. / Min.) 4510 RPM / 50 RPM
 Torque - Nm [lb-in] 334 [2959] (Max.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 Bar [160 PSI]

Model 46

Motor Element Piston
 Displacement 75,3 cm³/r [4.60 in³/r]
 Flow - L/Min. [GPM] 322 [85]
 Speed (Max. / Min.) 4160 RPM / 50 RPM
 Torque - Nm [lb-in] 556 [4916] (Max.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 54

Motor Element Piston
 Displacement 89,1 cm³/r [5.44 in³/r]
 Flow - L/Min. [GPM] 337 [89]
 Speed (Max. / Min.) 3720 RPM / 50 RPM
 Torque - Nm [lb-in] 556 [4916] (Max.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 64

Motor Element Piston
 Displacement 105,5 cm³/r [6.44 in³/r]
 Flow 409 L/Min. [108 GPM]
 Speed (Max. / Min.) 3720 RPM / 50 RPM
 Torque - Nm [lb-in] 656 [5807] (Max.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 76

Motor Element Piston
 Displacement 124,8 cm³/r [7.62 in³/r]
 Flow - L/Min. [GPM] 371 [98]
 Speed (Max. / Min.) 2775 RPM / 50 RPM
 Torque - Nm [lb-in] 781 [6911] (Max.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Variable Displacement Motors

**Model 33**

Motor Element Piston
 Displacement (Max.) 54,4 cm³/r [3.32 in³/r]
 Flow @ Maximum Displacement (15.5°)
 L/Min. [GPM] 231 [61]
 Speed: @ 15.5° 4510 RPM (Max.)
 @ 10° 5380 RPM (Max.)*
 Torque - Nm [lb-in] 334 [2959] (Max.)
 Speed 50 RPM (Min.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 39

Motor Element Piston
 Displacement (Max.) 63,7 cm³/r [3.89 in³/r]
 Flow @ Maximum Displacement (18°)
 L/Min. [GPM] 273 [72]
 Speed: @ 18° 4160 RPM (Max.)
 @ 10° 5380 RPM (Max.)*
 Torque - Nm [lb-in] 397 [3511] (Max.)
 Speed 50 RPM (Min.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 46

Motor Element Piston
 Displacement (Max.) 75,3 cm³/r [4.60 in³/r]
 Flow @ Maximum Displacement (18°)
 L/Min. [GPM] 322 [85]
 Speed: @ 18° 4160 RPM (Max.)
 @ 10° 5380 RPM (Max.)*
 Torque - Nm [lb-in] 556 [4916] (Max.)
 Speed 50 RPM (Min.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 54

Motor Element Piston
 Displacement (Max.) 89,1 cm³/r [5.44 in³/r]
 Flow @ Maximum Displacement (18°)
 L/Min. [GPM] 337 [89]
 Speed: @ 18° 3720 RPM (Max.)
 @ 10° 4810 RPM (Max.)*
 Torque - Nm [lb-in] 556 [4916] (Max.)
 Speed 50 RPM (Min.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 64

Motor Element Piston
 Displacement (Max.) 105,5 cm³/r [6.44 in³/r]
 Flow @ Maximum Displacement (18°)
 L/Min. [GPM] 409 [108]
 Speed: @ 18° 3720 RPM (Max.)
 @ 10° 4810 RPM (Max.)*
 Torque - Nm [lb-in] 656 [5807] (Max.)
 Speed 50 RPM (Min.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 [160]

Model 76

Motor Element Piston
 Displacement (Max.) 124,8 cm³/r [7.62 in³/r]
 Flow @ Maximum Displacement (18°)
 L/Min. [GPM] 371 [98]
 Speed: @ 18° 2775 RPM (Max.)
 @ 10° 3425 RPM (Max.)*
 Torque - Nm [lb-in] 781 [6911] (Max.)
 Speed 50 RPM (Min.)
 Pressure - Bar [PSI]
 Recommended 240 [3500]
 Maximum 415 [6000]
 Charge Pressure
 Bar [PSI] 11 Bar [160 PSI]

*Maximum
 charge pressure
 relief at pump
 and motor.

Controls

Heavy Duty



Remote Electric (RE) Control for Heavy Duty Series 1 Pump

The Remote Electric (RE) Control electrically operates the Heavy Duty Series 1 Manual Control. No cables are required on the control lever.

Features and Benefits

- Eliminates mechanical cables.
- Reduces operator work load.
- Ease of installation and operation.
- Displacement control in both directions.
- Simple electric control does not require electronic drivers.
- Compact, environmentally-protected package — no external hoses, brackets or links.
- Interfaces with standard manual control (requires new control link).

Standard Options

- Built in normally-closed pause/resume solenoid valve provides return to neutral and return to previous flow setting.
- Manual bypass valve provides a means to manually control the pump.
- 12 Vdc solenoid coils with diodes.
- Three 2-Pin Weather Pack connectors.
- Control shift time: 4 seconds neutral to full stroke.

Options

- Flow adjustment valve limits maximum flow in one direction.



Electronic Proportional (EP) Displacement Control for the Heavy Duty Series 1 Pump

Designed to withstand the rigors of off-highway equipment environmental conditions, the Electronic Proportional (EP) displacement control is ideal for applications that are replacing mechanical cables. The EP displacement control provides the flexibility of four command input choices. The control consists of a proportional solenoid actuated valve assembly and a pulse width modulated (PWM) control driver module mounted on the pump. The PWM control driver module converts the command input signal to a proportional current output. The proportional solenoid actuated valve assembly converts the current output of the PWM control driver into a proportional pump displacement.

Features and Benefits

- Ease of installation
- Automotive style environmentally sealed Metri-Pack connectors
- Operates from 12 or 24 Vdc power supply
- External fuse (customer supplied):
2A for 12 Vdc system, 1A for 24 Vdc system
- Four choices for command input signal
- Operating temperature range -40° to +85° C
- PWM control driver module encapsulated for environmental protection
- Closed loop current control compensates for resistance change of the proportional solenoid temperature variation.
- Return to neutral for loss of power, or loss of command input signal
- Mechanical feedback of swashplate position for closed loop control
- External neutral adjustment
- Manual override capability
- PWM control drive module qualification per SAE J1455, SAE J1113, CISPR 25



CAN Multiplex (MUX) Control

Provides fast and accurate electronic control for displacement and/or pressure control. The MUX control is designed to interface with a main vehicle computer containing software for the desired vehicle characteristics and system diagnostics. The CAN Multiplex Control for displacement and/or pressure control includes a Solenoid Control with a rotary potentiometer for swashplate feedback. The pressure control option also includes two pressure transducers and a speed sensor.

Built to withstand the rigors of off-highway equipment environmental conditions, potential applications for this control include automotive drive control, motor output torque or pressure control, motor output speed control, multiple pump control and programmed pump control.

CAN Multiplex Control Features

- Ease of installation - single external connector
- Pump mounted electronics and sensors
- Automatically accommodates for 12 or 24 Vdc power supply
- External 5A fuse (customer supplied)
- Operating temperature -40°C to +105°C
- Environmentally sealed
- Electric short and open protection
- Reverse voltage protection
- Diagnostics accessible from CAN
- Dual-error channel design for return to neutral
- Return to neutral for loss of electrical swashplate feedback, loss of pressure sensor, loss of solenoid or loss of CAN communication
- Continuous calibration for improved temperature compensation
- Multiplex design for simpler cable harnesses and sharing of sensor data
- CAN electrical interface options include J1939/11 (Bosch layer)
- CAN protocol per SAE J1939
- CAN Multiplex electronics qualification per SAE J1455, SAE J1113, CISPR/D/WG2, ISO 7637.

Additional Controls

For complete information on Eaton hydraulic controls, see individual product catalogs and Catalog No. 11-882 (Heavy Duty controls).

See Catalog No. 11-882
for more information on
heavy duty controls.

Char-Lynn® Power Steering Units

Steering Control Units

Eaton steering control units are designed and intended for use only at speed under 40 mph. For assistance in applications exceeding this limit, please call your Eaton sales representative.



Flex 4

Meter Element	Gerotor
Displacement (6)	58 cm ³ /r [3.58 in ³ /r] 74 cm ³ /r [4.50 in ³ /r] 100 cm ³ /r [5.86 in ³ /r] 120 cm ³ /r [7.33 in ³ /r]
System	
Open Center	Non-Load Reaction
Power Beyond	Non-Load Reaction
Load Sensing	
(Dynamic Signal) ..	Non-Load Reaction
System Pressure	
(Standard Units)	125 Bar [1800 PSI]
Back Pressure (Max.) ...	10 Bar [150 PSI]
Flow L/Min. [GPM]	23 [6] (Max.)
Max. Operating Temp. ..	93°C [200°F]
Temperature Differential	
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Powered	1,7 - 2,8 Nm [15 - 25 lb-ft]
Non-Powered	81,4 Nm [60 lb-ft] (Max.)
Check Valve for Emergency	
Manual Steering	Yes
Optional Valves	Relief, Inlet Check, Cylinder Relief, Anti Cavitation



Series 2

Meter Element	Gerotor
Displacement (6)	31 cm ³ /r [1.9 in ³ /r] 39 cm ³ /r [2.4 in ³ /r] 51 cm ³ /r [3.1 in ³ /r] 63 cm ³ /r [3.8 in ³ /r] 74 cm ³ /r [4.5 in ³ /r] 100 cm ³ /r [6.1 in ³ /r]
System	
Open Center	Non-Load Reaction
Power Beyond	Non-Load Reaction
Load Sensing	
Dynamic Signal ...	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	70 [1000]
High Press. Units	103 [1500]
Back Pressure	
Bar [PSI]	10 [150] (Max.)
Flow - L/Min. [GPM]	15 [4] (Max.)
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential	
(Between Steering Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	1,7 - 2,8 [15 - 25]
Non-Powered	81,4 [60] (Max.)
Check Valve for Emergency	
Manual Steering	Yes
Optional Relief Valve Settings (7)	
Range - Bar [PSI] ...	40 - 100 [580 - 1450]



Series 3

Meter Element	Gerotor
Displacement (5)	75 cm ³ /r [4.5 in ³ /r] 95 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r] 145 cm ³ /r [8.9 in ³ /r] 160 cm ³ /r [9.7 in ³ /r]
System	
Open Center	Non-Load Reaction
System Pressure	
Bar [PSI]	172 [2500]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	7,5 - 15 [2 - 4]
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential (Between Steering Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 4,0 [25 - 35]
Non-Powered	136 [100] (Max.)
Check Valve for Emergency	
Manual Steering	Yes

Series 6

Meter Element	Gerotor
Displacement (8)	75 cm ³ /r [4.5 in ³ /r] 95 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r] 145 cm ³ /r [8.9 in ³ /r] 160 cm ³ /r [9.7 in ³ /r] 185 cm ³ /r [11.3 in ³ /r] 230 cm ³ /r [14.1 in ³ /r] 295 cm ³ /r [17.9 in ³ /r]
System	
Open Center	Non-Load Reaction or Load Reaction
Load Sensing	
Dynamic Signal	Non-Load Reaction
Static Signal	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	172 [2500]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	15 - 30 [4 - 8] (Max.)*
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential (Between Steering Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 4,0 [25 - 35]
Non-Powered	136 [100] (Max.)
Check Valve for Emergency	
Manual Steering	Yes

Series 12

Meter Element	Gerotor
Displacement (4)	370 cm ³ /r [22.6 in ³ /r] 460 cm ³ /r [28.2 in ³ /r] 590 cm ³ /r [35.9 in ³ /r] 740 cm ³ /r [45.1 in ³ /r]
System	
Open Center	Non-Load Reaction
Load Sensing	
Dynamic Signal ...	Non-Load Reaction
Static Signal	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	172 [2500]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	30 - 60 [8 - 16] (Max.)*
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential (Between Steering Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 4,0 [25 - 35]
Non-Powered	136 [100] (Max.)
Check Valve for Emergency	
Manual Steering	Yes

*For closed-center unit, rated flow is measured at 70 Bar [1000 PSI] pressure drop at full valve deflection.

Char-Lynn® Power Steering Units

Steering Control Units (continued)



Series 4

Meter Element	Gerotor
Displacement (5)	45 cm ³ /r [2.8 in ³ /r] 60 cm ³ /r [3.6 in ³ /r] 75 cm ³ /r [4.5 in ³ /r] 95 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r]
System	
Open Center	Non-Load Reaction
Power Beyond	Non-Load Reaction
Load Sensing	
Dynamic Signal	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	124 [1800]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	15 [4] (Max.)
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential	
(Between Steering	
Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	1,7 - 2,8 [15 - 25]
Non-Powered	81,4 [60] (Max.)
Check Valve for Emergency	
Manual Steering	Yes



Series 110

Meter Element	Gerotor
Displacement (5)	45 cm ³ /r [2.8 in ³ /r] 60 cm ³ /r [3.6 in ³ /r] 75 cm ³ /r [4.5 in ³ /r] 95 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r]
System	
Open Center	Non-Load Reaction or Load Reaction
System Pressure - Bar [PSI]	
Standard Units	172 [2500]
High Press. Units	240 [3500]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	7,5 - 12 [2 - 4]
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential	
(Between Steering	
Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 4,0 [25 - 35]
Non-Powered	136 [100] (Max.)
Check Valve for Emergency	
Manual Steering	Yes

Series 230

Meter Element	Gerotor
Displacement (8)	75 cm ³ /r [4.5 in ³ /r] 95 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r] 145 cm ³ /r [8.9 in ³ /r] 160 cm ³ /r [9.7 in ³ /r] 185 cm ³ /r [11.3 in ³ /r] 230 cm ³ /r [14.1 in ³ /r] 295 cm ³ /r [17.9 in ³ /r]
System	
Open Center	Non-Load Reaction or Load Reaction
Load Sensing	
Dynamic Signal	Non-Load Reaction
Static Signal	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	172 [2500]
High Press. Units	240 [3500]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	15 - 30 [4 - 8] (Max.)
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential	
(Between Steering	
Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 4,0 [25 - 35]
Non-Powered	136 [100] (Max.)
Check Valve for Emergency	
Manual Steering	Yes



Series 450

Meter Element	Gerotor
Displacement (4)	370 cm ³ /r [22.6 in ³ /r] 460 cm ³ /r [28.2 in ³ /r] 590 cm ³ /r [35.9 in ³ /r] 740 cm ³ /r [45.1 in ³ /r]
System	
Open Center	Non-Load Reaction
Closed Center	Non-Load Reaction
Load Sensing	
Dynamic Signal ..	Non-Load Reaction
Static Signal	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	172 [2500]
High Press. Units	240 [3500]
Back Pressure	
Bar [PSI]	21 [300] (Max.)
Rated Flow	
L/Min. [GPM]	30 - 60 [6 - 16] (Max.)
Operating Temp.	93°C [200°F] (Max.)
Temperature Differential	
(Between Steering	
Unit & System)	28°C [50°F]
Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 4,0 [25 - 35]
Non-Powered	136 [100] (Max.)
Check Valve for Emergency	
Manual Steering	Yes

Optional Valves

- Inlet Check Valve
- Inlet Relief Valve
- Anti-Cavitation Valve
- Cylinder Port Shock Valves
- Load Sensing Relief Valve



Series 20

Meter Element	Gerotor
Displacement (14)	60 cm ³ /r [3.6 in ³ /r] 75 cm ³ /r [4.5 in ³ /r] 95 cm ³ /r [5.9 in ³ /r] 120 cm ³ /r [7.3 in ³ /r] 145 cm ³ /r [8.9 in ³ /r] 160 cm ³ /r [9.7 in ³ /r] 185 cm ³ /r [11.3 in ³ /r] 230 cm ³ /r [14.1 in ³ /r] 295 cm ³ /r [17.9 in ³ /r] 370 cm ³ /r [22.6 in ³ /r] 460 cm ³ /r [28.2 in ³ /r] 590 cm ³ /r [35.9 in ³ /r] 740 cm ³ /r [45.1 in ³ /r] 985 cm ³ /r [60.0 in ³ /r]
System	
Load Sensing	
Dynamic Signal	Non-Load Reaction
System Pressure - Bar [PSI]	
Standard Units	172 [2500]
High Press. Unit	240 [3500]
Back Pressure	
Bar [PSI]	10 [145] (Max.)
Rated Flow	
L/Min. [GPM]	95 [25]

Char-Lynn® Power Steering Units

Steering Control Units (continued)



Series 25

Meter Element	Gerotor
Displacement (5)	490 cm ³ /r [30 in ³ /r]
	625 cm ³ /r [38 in ³ /r]
	795 cm ³ /r [48 in ³ /r]
	985 cm ³ /r [60 in ³ /r]
	1230 cm ³ /r [75 in ³ /r]

System	
Open Center	Non-Load Reaction
Closed Center	Non-Load Reaction

Load Sensing	
Dynamic Signal	Non-Load Reaction

System Pressure	
Bar [PSI]	240 [3500]

Back Pressure	
Bar [PSI]	21 [300] (Max.)

Rated Flow	
L/Min. [GPM]	95 [25] (Max.)

Operating Temp.	93°C [200°F] (Max.)
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Temperature Differential	
Between Steering	
Unit & System	28°C [50°F]

Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 3,4 [25 - 30]
Non-Powered	Manual steering is not possible without hydraulic power.



Series 40

Meter Element	Gerotor
Displacement (5)	1230 cm ³ /r [75 in ³ /r]
	1555 cm ³ /r [95 in ³ /r]
	1965 cm ³ /r [120 in ³ /r]
	2460 cm ³ /r [150 in ³ /r]
	3030 cm ³ /r [185 in ³ /r]

System	
Open Center	Non-Load Reaction
Closed Center	Non-Load Reaction
Load Sensing	
Dynamic Signal ...	Non-Load Reaction

System Pressure	
Bar [PSI]	240 [3500]

Back Pressure	
Bar [PSI]	21 [300]

Rated Flow	
L/Min. [GPM]	151 [40]

Maximum Flow	
L/Min. [GPM]	212 [56]

Operating Temp.	93°C [200°F] (Max.)
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Temperature Differential	
(Between Steering	
Unit & System)	28°C [50°F]

Input Torque Back Pressure @ 7 Bar [100 PSI]	
Nm [lb-ft]	
Powered	2,8 - 3,4 [25 - 30]
Non-Powered	Manual steering is not possible without hydraulic power.

Torque Generators



Series 217

Meter Element	Gerotor
Displacement (3)	76 cm ³ /r [4.7 in ³ /r] 96 cm ³ /r [5.9 in ³ /r] 160 cm ³ /r [9.7 in ³ /r]

227 Series

Meter Element	Geroler
Displacement (3)	80 cm ³ /r [4.9 in ³ /r] 102 cm ³ /r [6.2 in ³ /r] 160 cm ³ /r [9.7 in ³ /r]

Rated Flow	
L/Min. [GPM]	15,1 [4]
Recommended Flow	
L/Min. [GPM]	11,4 - 18,9 [3 - 5]
Operating Speed	125 - 102 RPM (Max.)
Operating Temp.	93°C [200°F] (Max.)
Input Torque - Nm [lb-in]	
Powered	1,6 - 2,5 [14-22]
Non-Powered	136 [100] (Max.)
Torque Output Range @ 70 Bar [1000 PSI]	
Nm [lb-in]	62 - 131 [550-1160]

Rated Pressure (See Circuit Type Below)

Open Center - Bar [PSI]	
In Port	70 [1000]
Out Port	3 [50]

Power Beyond - Bar [PSI]	
In Port	138 [2000]
Out Port	3 [50]
Auxiliary Port	138 [2000]
In Port (Minus),	
Out Port	70 [1000] (Max.)

Load Sensing - Bar [PSI]	
In Port	70 [1000]
Out Port	3 [50]
Auxiliary Port	70 [1000]

Open Center With Case Drain - Bar [PSI]	
In Port	172 [2500]
Out Port	130 [1500]
Auxiliary Port	3 [50]
In Port (Minus),	
Out Port	70 [1000] (Max.)

Char-Lynn® Steering Columns

Steering columns are available for use with Char-Lynn Steering Control Units.

For Series 2 — Serrated (No Wires) - mm [in.]
Column Lengths (6) 198-452 [7.8-17.8]

For Series 3 thru 40 — Serrated or Keyed
(With or Without Horn Wires) - mm [in.]
Column Lengths (16) ... 120-1034 [4.1-40.7]

Gear Pumps

Fixed Displacement Pumps



Model 26000 ("Series 26")

Pump Element Gear

Displacements (13) 6,6 cm³/r [.40 in³/r]
 8,2 cm³/r [.50 in³/r]
 9,5 cm³/r [.58 in³/r]
 10,8 cm³/r [.66 in³/r]
 13,8 cm³/r [.84 in³/r]
 16,7 cm³/r [1.02 in³/r]
 19,7 cm³/r [1.20 in³/r]
 22,5 cm³/r [1.37 in³/r]
 24,3 cm³/r [1.48 in³/r]
 25,2 cm³/r [1.54 in³/r]
 27,7 cm³/r [1.69 in³/r]
 29,0 cm³/r [1.77 in³/r]
 30,6 cm³/r [1.87 in³/r]

Flow (Range)
 L/Min. [GPM] 24,3 - 91,6 [6.4 - 24.1]

Speed (Range) 3600 - 3000 RPM (Max.)

Speed 750 RPM (Min.)

Power Input @ Rated Speed & Continuous Pressure
 kW [HP] (Range) 9,7 - 37,4 [13.0 - 50.1]

Operating Pressure - Bar [PSI]
 Continuous* 207 [3000] (Max.)
 Intermittent** 241 [3500] (Max.)

Operating Temperature (Intermittent)
 Maximum 107°C [225°F]
 Minimum -29°C [-20°F]

Inlet Vacuum @ 82°C [180°F] and Rated Speed
 mm [in] 155 [6] Hg

*Pump may be run continuously at these ratings.

**10% of every minute.



Load Sensing Priority Valve for Series 26 Gear Pumps

Pump Element Gear

Displacements (9) 8.2 cm³/r [.50 in³/r] thru
 30.6 cm³/r [1.87 in³/r]

Rated Pressure 207 bar (3000 PSI)

Rated Inlet Flow 108 L/m (28 GPM)

Max. Controlled Flow 33 L/Min [8.5 GPM]

Bias Pressure Bar [PSI]

Dynamic 10 [150]

Static 6.9 [100]

Relief Pressure 34.5 Bar [500 PSI] to
 207 Bar [3000 PSI]

Response Time 70 msec. max.
 (standard bias spring)

CF Flow Variation over full pressure range ±10%

Mounting: SAE 2-Bolt A Mount

- SAE 2-Bolt, B Mount
- 4-Bolt European Mount (80mm Pilot)
- Ports Side or Rear
- Type - Single or Multiple Configuration

The Load Sensing Priority Valve is used with open loop load sense systems typically used in steering and braking circuits. The load sense gear pump provides metered priority flow (CF) on demand. Excess flow (EF) is available for auxiliary circuits. Quick response time helps ensure the operator will not sense a delay or steering "kick" during transient conditions.



Model 25500 ("L2 Series")

Pump Element Gear

Displacements (9) 21,3 cm³/r [1.30 in³/r]
 25,4 cm³/r [1.55 in³/r]
 29,2 cm³/r [1.78 in³/r]
 33,6 cm³/r [2.05 in³/r]
 38,2 cm³/r [2.33 in³/r]
 42,8 cm³/r [2.61 in³/r]
 46,7 cm³/r [2.85 in³/r]
 51,1 cm³/r [3.12 in³/r]
 55,2 cm³/r [3.37 in³/r]

Flow (Range) @ Rated Speed and Pressure
 L/Min. [GPM] 67,8 - 114,3 [17.9 - 30.2]

Speed (Range) 3500 - 2250 (Max.)

Speed @ Continuous
 Pressure 750 RPM (Min.)

Power Input @ 3600 RPM
 kW [HP] (Range) 13,5 - 38,3 [18 - 51]

Operating Pressure - Bar [PSI]
 Continuous[†] 207 [3000] (Max.)
 Intermittent^{††} 241 [3500] (Max.)

Operating Temperature (Intermittent)
 Maximum 107°C [225°F]
 Minimum -29°C [-20°F]

Inlet Vacuum @ 82°C [180°F] & Rated Speed
 mm [in.] 152 [6] Hg

[†]155 [2250] Continuous (for 55,2 cm³/r [3.37 in³/r])

^{††}190 [2750] Intermittent (for 55,2 cm³/r [3.37 in³/r])

Gear Motors



Model 21300 ("B1 Series")

Motor Element	Gear	
Displacement (9)	6,6 cm³/r [.40 in³/r] 8,0 cm³/r [.49 in³/r] 9,5 cm³/r [.58 in³/r] 11,5 cm³/r [.70 in³/r] 13,8 cm³/r [.84 in³/r] 16,7 cm³/r [1.02 in³/r] 20,3 cm³/r [1.24 in³/r] 24,3 cm³/r [1.48 in³/r] 29,0 cm³/r [1.77 in³/r]	
Flow (Range) Continuous L/Min. [GPM]	36,3 - 106,0 [9.6 - 28.0]	
Speed (Range) Continuous	4000 - 3000 RPM (Max.)	
Pressure - Bar [PSI] Continuous	138 [2000] Maximum	172 [2500]
Maximum Torque (Range) Nm [lb-in]	12,4 - 52,2 [110 - 460]	
Power Input (Range) kW [HP]	5,2 - 16,4 [7.0 - 22.0]	



Cartridge Valves



We've expanded our cartridge valve operation to provide customers with enhanced design expertise and reduced lead time by creating a dedicated cartridge valve team, implementing a new development process and by purchasing new equipment.

Eaton has long been recognized as a world leader in consultative design expertise and technology. Given our full-line capabilities, our engineers are accustomed to developing complete systems through the proper selection and application of components and integrated subsystems. With the new focus on cartridge valves, we add even more dimension to our design capabilities.

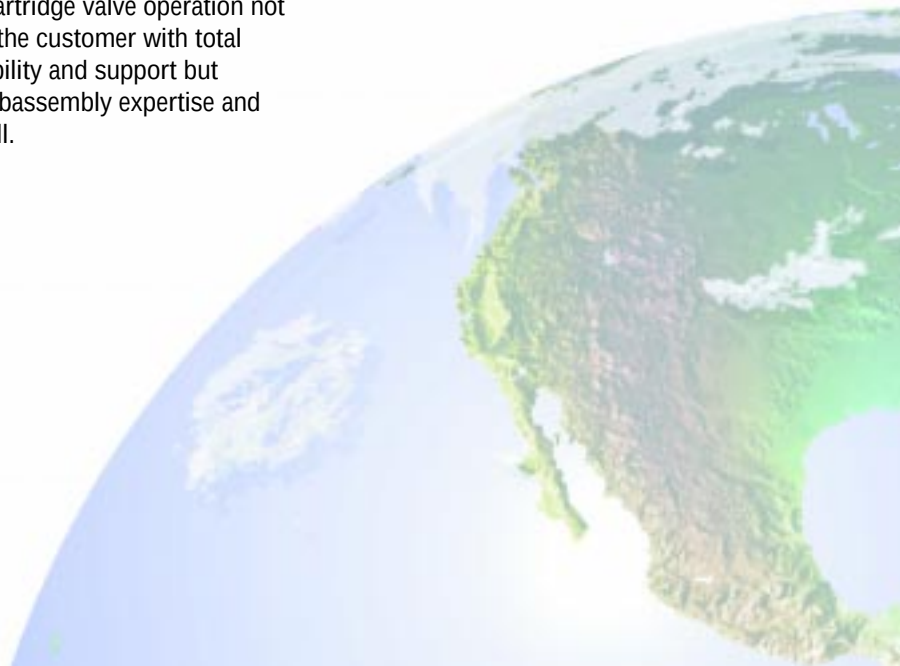
Today, we're taking an additional step by assigning each cartridge valve customer a single contact who can address design, service and even order needs. Further, a dedicated team of design professionals has been assembled specifically to manage this segment of Eaton's business. The goal is to provide customers with integrated design expertise, fast response and optimized circuits for applications in terms of efficiency, integrity and value.

One key to Eaton's ability to reduce cartridge valve lead time is the use of three-dimensional design and manufacturing software. Engineering design files are sent directly to the manufacturing plant electronically. Manufacturing software then interfaces with the design file and programs the milling and finishing machines that produce the manifolds. Manual programming and set up times on the machines are reduced and errors are minimized. Three-dimensional installation models are available for all Eaton cartridge valve assemblies and integrated subsystems, to facilitate customer installation as well as design.

Eaton's new cartridge valve operation not only provides the customer with total systems capability and support but component subassembly expertise and support as well.

Key Features and Benefits

- Design flexibility
- Compact design
- Reduction in total life cycle costs
- Requires less plumbing resulting in:
 - ◆ Reduced assembly time
 - ◆ Lower installed costs
 - ◆ Fewer potential leakage paths
 - ◆ Less maintenance (fewer hoses and fittings)





Standard and Custom Cartridge Valve Assemblies

- *Standard Aluminum and Steel Manifolds*
- *Custom Multiple-Cartridge Assemblies*

Motor Mountable Valve Assemblies

- 2000 Series Dual Counterbalance with Brake Release
- 2000 Series Dual Pilot Check with Brake Release
- H or T Dual Counterbalance with brake Release
- H or T Crossover Relief

Check Valve Cartridges

- Standard Checks, Reverse Flow Checks, and Shuttles
- Flows to 76 L/Min. [20 gpm]
- Pressures to 345 bar [5000 psi]

Pressure Control Cartridges

- Direct-Acting, Differential Area, Pilot-Operated and Crossover Reliefs
- Sequence, Pressure Reducing and Reducing Relieving Valves
- Flows to 114 L/Min. [30 gpm]
- Pressures to 345 bar [5000 psi]

Flow Control Cartridges

- Static and Dynamic Signal Priority Valves and Bypass Compensations.
- Flows to 170 L/Min. [45 gpm]
- Pressures to 240 bar [3500 psi]

Solenoid Operated Cartridges

- 2,3 and 4-way Spool Valves
- 2-way Poppet Valves
- Multi-Function Valves and Proportional Valves
- Flows to 57 L/Min. [15 gpm]
- Pressures to 345 bar [5000 psi]



Valves

Relief Valves



Model 32107 - Inline Relief
 Rated Flow-L/Min [GPM] 76 [20]
 Rated Pressure
 Bar [PSI] 345 [5000] (Max.)

Model 32112 - Inline Relief
 Rated Flow-L/Min [GPM] 132 [35]
 Rated Pressure-Bar [PSI] ... 345 [5000] (Max.)

Flow Divider Valves



Model F1217 - Adjustable Priority
 Rated Flow-L/Min.[GPM] 170 [45]
 Rated Pressure-Bar [PSI] ... 172 [2500]

Model VLC - Load Sensing Priority
 Rated Flow-L/Min. [GPM] ... 61 [16]
 Rated Pressure-Bar [PSI] ... 276 [4000]

Model VLE - Load Sensing Priority
 Rated Flow-L/Min. [GPM] ... 170 [45]
 Rated Pressure-Bar [PSI] ... 172 [2500]

Model VLH - Load Sensing Priority
 Rated Flow-L/Min. [GPM] ... 238 [63]
 Rated Pressure-Bar [PSI] ... 241 [3500]

Model VFA - Adjustable Priority
 Rated Flow - L/Min. [GPM] . 114 [45]
 Rated Pressure -Bar [PSI] .. 172 [2500]

In-Line Self Level Valve

Cylinder Extending Only



Model 39055-F
 Dual Self Level
 valve shown.

Model 39055-E Single Direction
 Inlet Flow Rate
 L/Min. [GPM] 56,8 [15]
 Rated Pressure 207 Bar [3000 PSI]
 Maximum Pressure 276 Bar [4000 PSI]
 Flow Divider Setting
 Port D 0 - 75% (60% Std.)
 Port B 25 - 100% (40% Std.)
 Max. Pressure Drop
 from Port A to Port B.. 24,6 L/Min. [6.5 GPM]
 Orifice Closed 10 Bar [150 PSI]

Model 39005-F Dual Direction
 Inlet Flow Rate 56,8 L/Min. [15 GPM]
 Rated Pressure 207 Bar [3000 PSI]
 Maximum Pressure 276 Bar [4000 PSI]
 Flow Divider Setting
 Port D 0 - 75% (60% Std.)
 Port B 25 - 100% (40% Std.)
 Max. Pressure Drop
 from Port A to Port B.. 24,6 L/Min. [6.5 GPM]
 Orifice Closed 10 Bar [150 PSI]

In-Line Flow Control Valve



Model 32604 - ABR

Inlet Flow Rate
L/Min. [GPM] 53 [14]
Operating Pressure
Bar [PSI] 345 [5000] (Max.)
Surge Pressure
Bar [PSI] 379 [5500] (Max.)

Model 32604 - ABW

Inlet Flow Rate
L/Min. [GPM] 80 [21]
Operating Pressure 345 [5000] (Max.)
Surge Pressure 379 [5500] (Max.)

Model 32604 - ABV

Inlet Flow Rate
L/Min. [GPM] 106 [28]
Operating Pressure 345 [5000] (Max.)
Surge Pressure 379 [5500] (Max.)

Monoblock Directional Control Valves



Model 30920
Monoblock valve with
relief valve standard setting.

Model 30920

With Relief Valve Standard Setting
Bar [PSI] 138 [2000]
Spool(s) One, Two or Three
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
L/Min. [GPM] 18,9 [5]
Rated Inlet Pressure
Bar [PSI] 207 [3000]
Rated Work Port Pressure
Bar [PSI] 310 [4500]

Model 30930

Without Relief Valve
Spool(s) One, Two or Three
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
L/Min. [GPM] 18,9 [5]
Rated Inlet Pressure
Bar [PSI] 207 [3000]
Rated Work Port Pressure
Bar [PSI] 310 [4500]

Model 31920

With Pilot Operated Checks
With Relief Valve
Standard Setting 138 Bar [2000 PSI]
Spool(s) One, Two or Three
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
L/Min. [GPM] 18,9 [5]
Rated Inlet Pressure
Bar [PSI] 207 [3000]
Rated Work Port Pressure
Bar [PSI] 310 [4500]



Model 30540

Model 31930

Without Relief Valve
With Pilot Operated Checks
Spool(s) One, Two or Three
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
L/Min. [GPM] 18,9 [5]
Rated Inlet Pressure
Bar [PSI] 207 [3000]
Rated Work Port Pressure
Bar [PSI] 310 [4500]

Model 30540

With Relief Valve
Standard Setting 138 Bar [2000 PSI]
Spool(s) One, Two or Three
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
L/Min. [GPM] 56,8 [15]
Rated Inlet Pressure
Bar [PSI] 172 [2500]
Rated Work Port Pressure
Bar [PSI] 207 [3000]

Valves

Monoblock Directional Control Valves (continued)

Model 34572 and 34573

Series Circuit
Spool(s) One, Two or Three
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
 L/Min. [GPM] 56,8 [15]
Rated Inlet Pressure
 Bar [PSI] 172 [2500]
Rated Work Port Pressure
 Bar [PSI] 207 [3000]



Model 31520

Model 31520

With Pilot Operated Checks
With Relief Valve
 Standard Setting 138 Bar [2000 PSI]
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate
 L/Min. [GPM] 56,8 [15]
Rated Inlet Pressure 172 Bar [2500 PSI]
Rated work Port Press. . 207 Bar [3000 PSI]

Model 31530

With Pilot Operated Checks
Without Relief Valve
3 Position, 4-Way Open Center Circuit
Inlet Flow Rate 56,8 L/Min. [15 GPM]
Rated Inlet Pressure 172 Bar [2500 PSI]
Rated work Port Press. . 207 Bar [3000 PSI]

Other Valves



Model 39011
Power Brake Valve

Model 36000 Solenoid Operated
Sectional Directional Control Valve
With Pilot Operated Checks
Rated Flow 76 L/Min. [20 GPM]
Rated Pressure 207 Bar [3000 PSI]

Model 39004 - Selector Valve
3 Way
Rated Flow 76 L/Min. [20 GPM]
Rated Pressure 172 Bar [2500 PSI]

Model 39042 - Backhoe Stabilizer Valve

Model 39011 - Power Brake Valve

Model 36331 - Electrohydraulic
Proportional Valve

Double Acting	Repairable
Options	Rephasing, Cushioning
Rated Pressure	207 Bar [3000 PSI]
Bore Diameter	25,4 - 127,0 mm [1 - 5 in.]
Rod Diameter	12,7 - 50,8 mm [.50 - 2.00 in.]
Maximum Stroke	1397 mm [55 in.]



Wyr-Loc®	
Double Acting	Repairable
Options	Rephasing, Hydraulic
	Stroke Control
Rated Pressure	207 Bar [3000 PSI]
Bore Diameter	63,5 - 125,0 mm
	[2.5 - 5 in.]
Rod Diameter	28,57 - 50,8 mm
	[1.125 - 2.00 in.]
Stroke	
Standard	203,2 mm [8.00 in.]
Standard	406,4 mm [16.00 in.]
Maximum	812,8 mm [32.00 in.]

Product Catalogs

To order catalogs, call your Eaton representative

11-104 - Char-Lynn Hydraulic Motors, J Series	70422, 70423 and 70523
11-107 - Medium Duty Piston Motors, Models 74111, 74118, 74318 and 74348	11-605 - Gear Pumps, L2 Series Model 25500 through 25508
11-111 - Char-Lynn Hydraulic Motors, W Series	11-606 - Medium Duty Piston Pumps, Model 70142/ 70144 and Model 70145 Variable Displacement Pump
11-112 - VIS Hydraulic Motors	11-609 - Gear Pumps, 26 Series Model 26000
11-301 - Power Steering, Char-Lynn, 2 Series	11-700 - Cylinders, Wyr-Loc, Model 580
11-302 - Char-Lynn Torque Generator, 217 Series and 227 Series	11-866 - Heavy Duty Hydrostatic Transmissions, Models 33 - 76; Includes description of Pump and Motor Controls
11-303 - Power Steering, Char-Lynn, 20 Series	11-872 - Char-Lynn Power Steering - 3,6,12, 4, 110, 230, 450, 25, and 40 Series; Includes Priority Valves, Cushion Crossover Relief Anticavitation Valves, Inlet check Valve, Steering Columns, Steering Wheels, Sizing and Application
11-500 - Directional Control Valves, Model 31920 and 31930	11-878 - Char-Lynn Disc Valve Hydraulic Motors, 2000, 4000, 6000 and 10000 Series
11-501 - Directional Control Valves, Models 31520 and 31530	11-879 - Hydraulic Motors, ME Series
11-503 - In-line Self-Level Valves, Model 39055	11-880 - Light Duty Hydrostatic Transmission, Model 6, 7, 11 and Model 11 Pump
11-504 - In-line Flow Control Valves, Part no. 32604	11-882 - Controls for Model 33 through 76 Hydrostatic Transmissions
11-506 - Directional Control Valves, Model 30540	11-885 - Char-Lynn General Purpose Hydraulic Motors, H, S and T Series
11-507 - Directional Control Valves, Model 30920 and 30930	11-888 - Hydrostatic Transaxles, Models 751, 851, 771, and 781
11-508 - Priority, Proportional, Variable Priority and Load Sensing Priority Flow Dividers	1-144 - Hydraulic Gear Motors, B1 Series Model 21300
11-509 - Manually Operated Selector Valves	1-406 - Hydrostatic Right Angle Transaxles, Model 778
11-510 - Relief Valve Assemblies and Cartridges	
11-600 - Medium Duty Piston Pumps, Model 70342 and 70344	
11-601 - Medium Duty Piston Pumps, model 72400 (Servo Controlled)	
11-603 - Medium Duty Piston Pumps, Model 70122,	

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Eaton Corporation is a global manufacturer of highly engineered products that serve industrial, vehicle, construction, commercial and semiconductor markets. Principal products include electrical power distribution and control equipment, truck drivetrain systems, engine components, hydraulic products, ion implanters and a wide variety of controls. Headquartered in Cleveland, the company has 49,000 employees and 143 manufacturing sites in 26 countries around the world. Sales for 1997 were \$7.6 billion.

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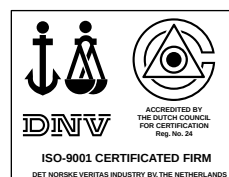
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Quality System Certified
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