



HV20

Sectional Directional Control Valve & Accessory Valve



Hyflow Controls

C072024



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Hyflow Controls

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HV20

Technical Data

Construction	Sectional
Circuit	Parallel / Open Center / Closed Center
Capacity	25gpm nominal
Max Operating Pressure	2500 psi with NPT ports / 3500 psi SAE ports
Filtration	25 Micron
Spool Force	50 lbs max
Seal Type	Buna-N

Valve Features

- Replaces Parker/Gresen® V20
- Circuit: Parallel/Open Center
- Capacity: 25gpm nominal
- Max Operating Pressure: 3500psi SAE ports only
- Max Tank Pressure: 150psi
- Filtration: 25 micron
- Spool Force: 50lbs maximum
- Temperature: -20° to 200° F (-29° to 93° C)
- Seal Type: Buna-N
- Relief Valve: Differential type
- Material: Compacted graphite, high strength iron alloy

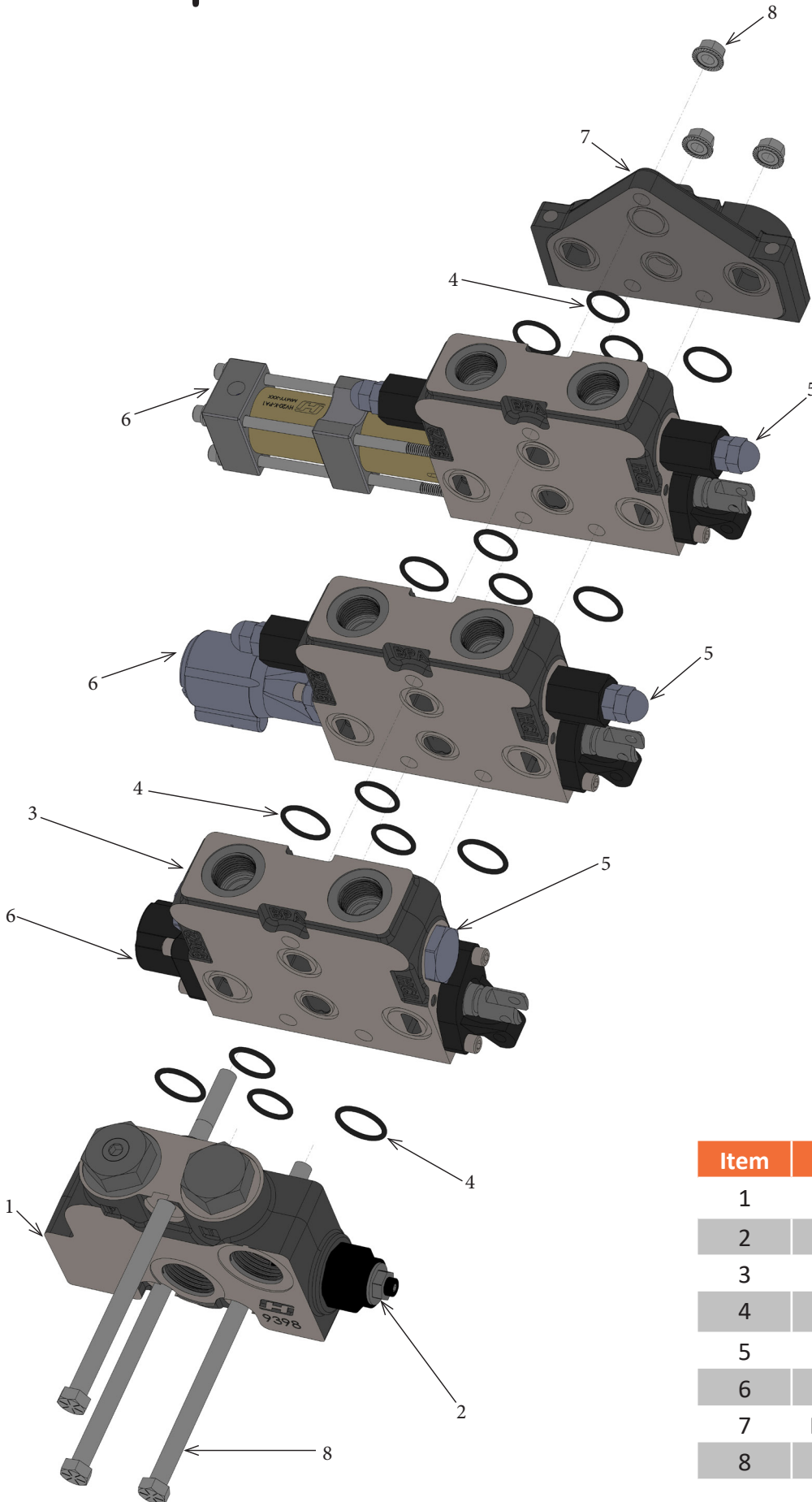
Cross Reference

Hyflow Controls®	Parker® / Gresen®
HV20	V20P (Parallel)

Approximate Weight (Lbs)

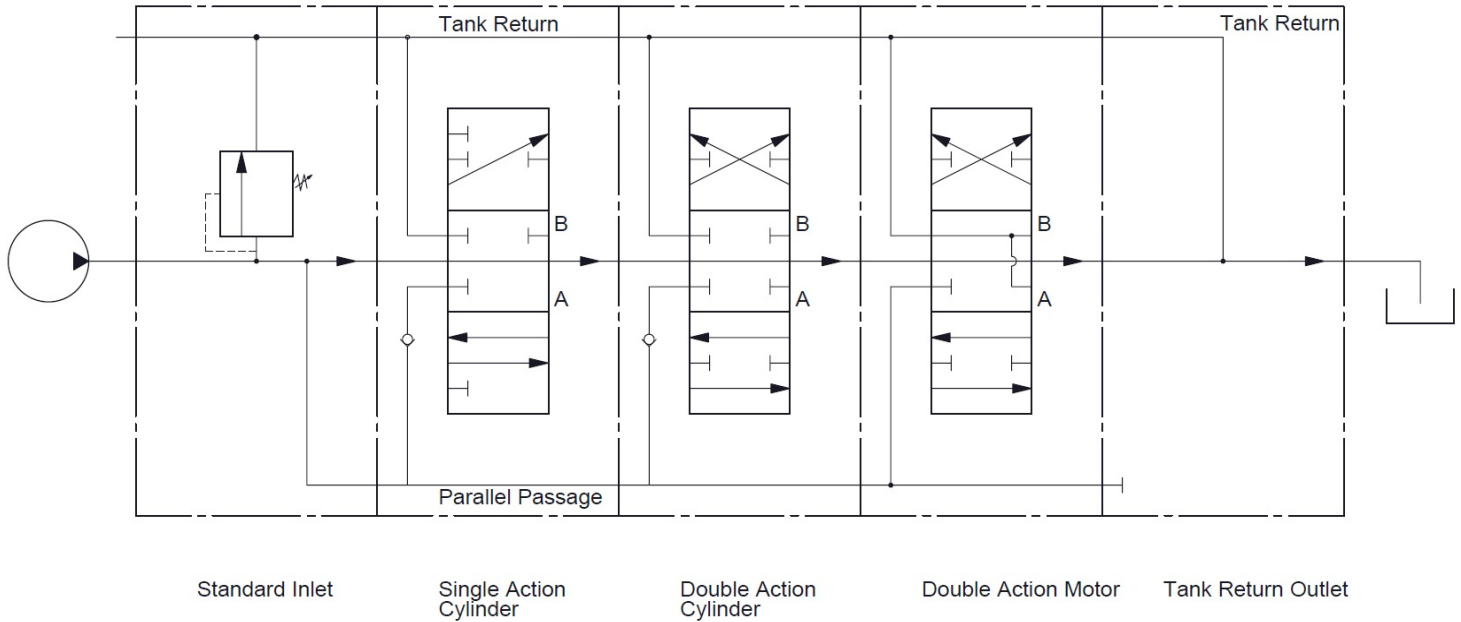
Part	Inlet	Outlet	Work Section
HV20	7	4	10

HV20 Exploded View



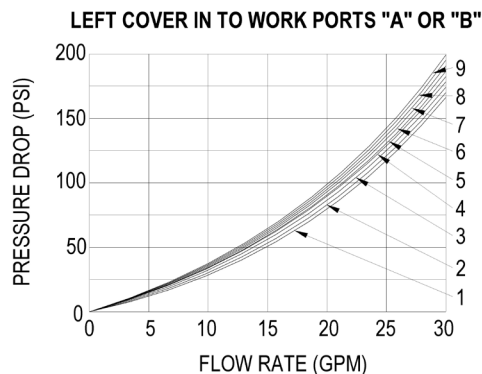
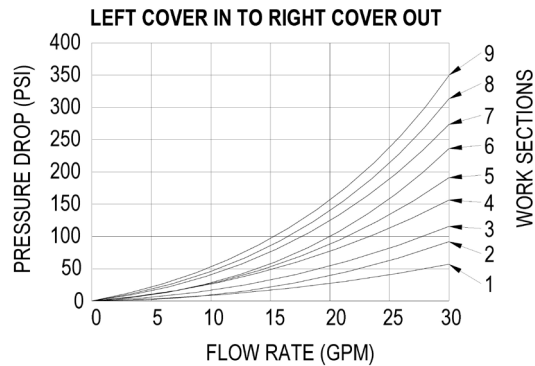
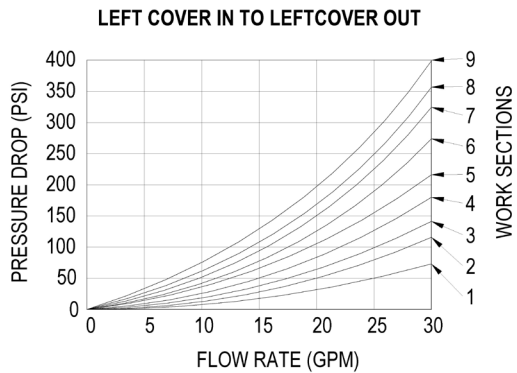
Item	Part
1	Left Cover - Inlets - Page 5
2	Main Relief Valves - Page 5
3	Work Sections - Page 6 & 7
4	Section Seals - Page 7
5	Port Accessories - Page 9
6	Actuators - Page 9
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Valve Assembly Schematic

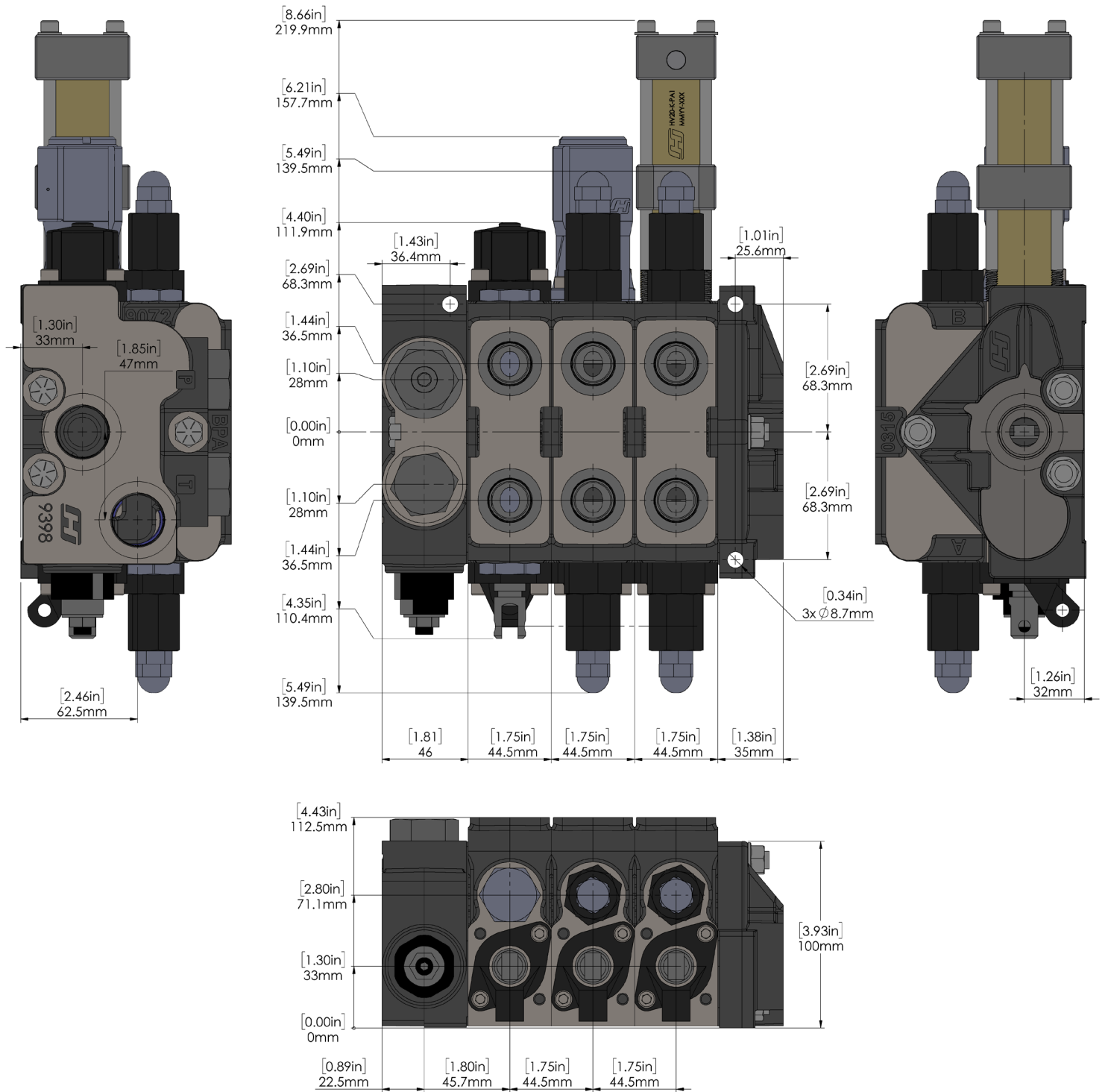


Performance - Pressure Drops vs. Flow Rates

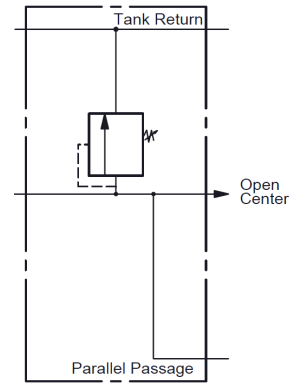
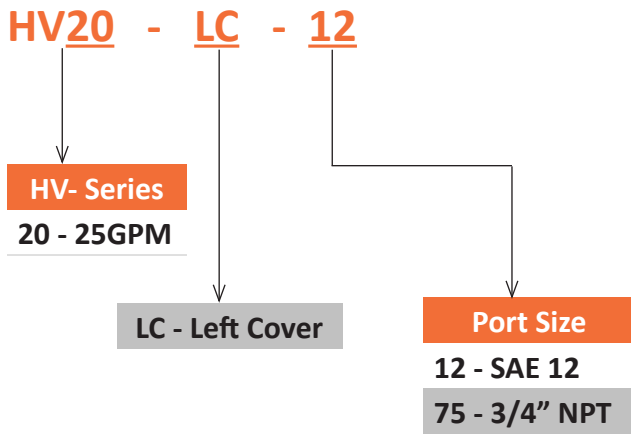
(All tests run using 150 SUS oil, at 120°F. SAE-12 inlet and outlet ports and SAE-10 work section ports)



Dimensional Data



Inlet Coding Table



Schematic with MRV

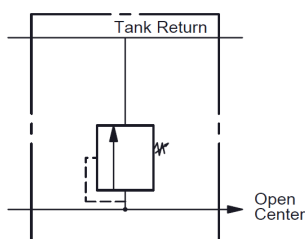
Inlet Left Covers (Housing No. 9398)

Part Number	Cross Reference	Replacement for Gresen®	End Inlet	Top Inlet	End Outlet	Top Outlet	Port Size SAE-12 (12)	Port Size 3/4" NPT (75)
HV20-LC-12	8650029	20-LC-12	X	X	X	X	X	
HV20-LC-75	8650030	20-LC-75	X	X	X	X		X

Main Relief Options for Inlet Covers

Part Number	Cross Reference	Replacement for Gresen®	500-1249 set @ 1200 PSI	1250-1749 set @ 1700 PSI	1750-1999 set @ 1950 PSI	500-3500 set @ 2000 PSI	2000-2599 set @ 2550 PSI	500-3500 set @ 3000 PSI
HRP51A-2000	8650421	RP51A-2000				X		
HRP51A-3000	8650421	RP51A-3000						X
HV20-WH-500	06532500	WH-500				(Shim adjustable)		
HV20-WH-1200	8650417	WH-1200	X					
HV20-WH-1700	8650418	WH-1700		X				
HV20-WH-1950	8650419	WH-1950			X			
HV20-WH-2550	8650420	WH-2550					X	
HV20-WH-A	8650381	K-WH-A	Screw Adjustable Option for WH relief					
HV20-K-NR	8650382	K-20-NR	Relief Plug Kit					

Valves supplied with screw adjustable setting



Work Section Coding Table

HV20 - 10 - D F4

HV- Series
20 - 25GPM

Port Size
8 - SAE 8
10 - ORB #10
50 - 1/2" NPT

Spool Action
Blank - Spring return
D - 3 Position detent - no spring centering
R - "IN" detent with spring centering
RO - "OUT" detent with spring centering
PA1 - Pneumatic positioner

	Spool Function + Circuit	Symbol
3	3Way, 3 Position	
4	4Way, 3 Position	
F4	4Way, 3 Position Free Flow Motor Spool	

Work Sections (Housing No. 9072)

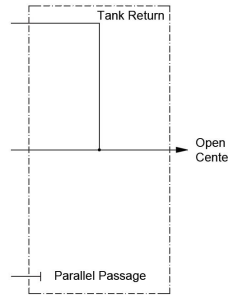
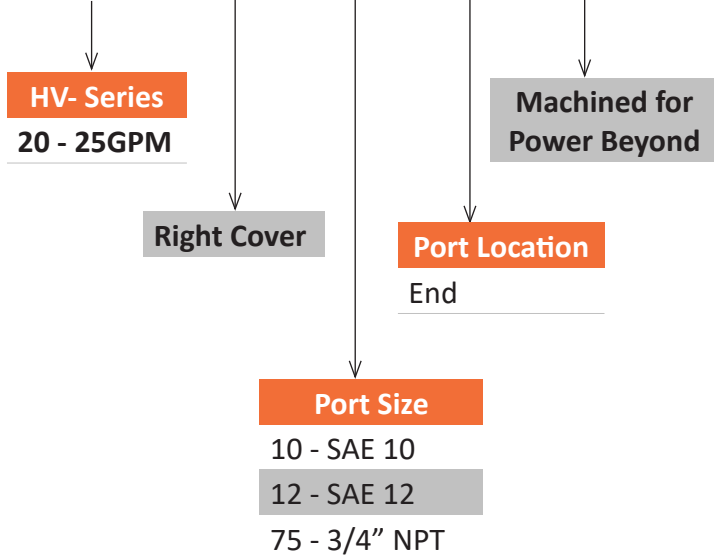
Part Number	Cross Reference	Replacement for Gresen®	4 Way 3 Position (4)	3 Way 3 Position (3)	4 Way 3 Position Free Flow Spool (Motor Spool) (F)	1/2" NPT Work Ports (50)	SAE 8 Work Ports (8)	SAE 10 Work Ports (10)	Spring Return to Neutral	3 Position Detent	SAE-12 (12)
HV20-08-03	13650149	20-08-03		X			X		X		
HV20-08-04	13650148	20-08-04	X				X		X		
HV20-08-DF4	13650838	20-08-DF4			X		X			X	
HV20-08-F4	13650151	20-08-F4			X		X		X		
HV20-10-03	8650016	20-10-03		X				X	X		
HV20-10-04	8650020	20-10-04	X					X	X		
HV20-10-D4	8650000	20-10-D4	X					X		X	
HV20-10-DF4	8650009	20-10-DF4			X			X		X	
HV20-10-F4	8650018	20-10-F4			X			X	X		
HV20-12-04		20-12-04	X						X		X
HV20-50-03	8650017	20-50-03		X		X			X		
HV20-50-04	8650021	20-50-04	X			X			X		
HV20-50-F4	8650019	20-50-F4			X	X			X		

Seal Kits

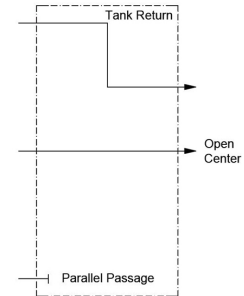
Part Number	Cross Reference	Replacement for Gresen®	Description
HV20-K-6035	07385001	K-6035	Spool Seals
HV20-K-6121	08340001	K-6121	Section Seals

Outlet - Coding Table

HV20 - RC - 12 - E - MY



Outlet Schematic



Power Beyond Schematic

Outlet Covers (Housing No. 7770)

Part Number	Cross Reference	Replacement for Gresen®	Port Size & Location 3/4" NPT (75)	Port Size & Location SAE 10 (10)	Port Size & Location SAE 12 (12)	Machined for Power Beyond (MY)
HV20-RC-10-E	13650145	20-RC-10-E	END			
HV20-RC-12-E	13650146	20-RC-12-E			END	
HV20-RC-75-E	13650147	20-RC-75-E	END			

Power Beyond

Part Number	Cross Reference	Replacement for Gresen®	Port Size & Location 3/4" NPT (75)	Port Size & Location SAE 10 (10)	Port Size & Location SAE 12 (12)	Machined for Power Beyond (MY)
HV20-RC-12-E-MY	8650024	20-RC-12-E-MY			END	X
HV20-RC-75-E-MY	8650027	20-RC-75-E-MY	END			X

Outlet Cover Option Kits (Housing No. 7770)

Part Number	Cross Reference	Replacement for Gresen®	Description
HV20-K-08-Y	8650102	K-20-08-Y	SAE 8 Power Beyond Sleeve
HV20-K-10-Y	8650103	K-20-10-Y	SAE 10 Power Beyond Sleeve
HV20-K-12-Y	12748001	K-20-12-Y	SAE 12 Power Beyond Sleeve
HV20-K-50-Y	8650101	K-20-50-Y	1/2" NPT Power Beyond Sleeve
HV20-K-C	8650099	K-20-C	Closed Center Plug
HV20-K-X	8650100	K-20-X	Conversion Plug

Work Port Accessories

Part Number	Cross Reference	Replacement for Gresen®	Relief Valve	Relief & Anti-Cavitation Check	Anti-Cavitation Check	500-1249 set @ 1200 PSI	1250-1749 set @ 1700 PSI	1750-1999 set @ 1950 PSI	2000-2599 set @ 2550 PSI
HV20-CRA-1200	8650387	CRA-A-1200*		X		X			
HV20-CRA-1700	8650388	CRA-A-1700*		X			X		
HV20-CRA-1950	8650389	CRA-A-1950*		X				X	
HV20-CRA-2550	8650390	CRA-A-2550*		X					X
HV20-RC-500	13650156	RC-A-500*	X			X			
HV20-RC-1200	8650394	RC-A-1200*	X			X			
HV20-RC-1700	8650395	RC-A-1700*	X				X		
HV20-RC-1950	8650396	RC-A-1950*	X					X	
HV20-RC-2550	8650397	RC-A-2550*	X						X
HV20-K-AC	8650380	K-20-AC			X				

Spool Positioners

Part Number	Cross Reference	Replacement for Gresen®	Description
HV20-K-D	8650105	K-20-D	3-Position Detent
HV20-K-PA1	8650630	K-20-PA1	Pneumatic Spool Positioner kit
HV20-K-R	8650106	K-20-R	Spool "IN" Detent w/Spring Return to Neutral
HV20-K-RO	12903001	K-20-RO	Spool "OUT" Detent w/Spring Return to Neutral

Handle Options

Part Number	Cross Reference	Replacement for Gresen®	Description
HV20-K-HH-B	8650154	K-20-HH-B	Horizontal Handle & Linkage Kit (Black)
HV20-K-VH-B	8650151	K-20-VH-B	Vertical Handle & Linkage Kit (Black)
HV20-K-HH-P	8650156	K-20-HH-P	Horizontal Handle & Linkage Kit (Plain)
HV20-K-6031	01801003	N/A	V20 Handle Bracket, Plastic

Stud Kits

Part Number	Cross Reference	Replacement for Gresen®	Description
HV20-K-1	8650087	K-20-1	1 work section. **Seals not included**
HV20-K-2	8650088	K-20-2	2 work sections. **Seals not included**
HV20-K-3	8650089	K-20-3	3 work sections. **Seals not included**
HV20-K-4	8650090	K-20-4	4 work sections. **Seals not included**
HV20-K-5	8650091	K-20-5	5 work sections. **Seals not included**
HV20-K-6	8650092	K-20-6	6 work sections. **Seals not included**
HV20-K-7	8650093	K-20-7	7 work sections. **Seals not included**
HV20-K-8	8650094	K-20-8	8 work sections. **Seals not included**

Warranty Policy

Heavy Motions HV20 sectional directional control valve is warranted for a period of (1) one year (12 months) from the date of service or 1-1/2 years (18 months) from date of sales/builds, or 12 months of date of installation, whichever is sooner, against any defect in material and workmanship which existed at the time of sale by Heavy Motions Inc., according to the following provisions, subject to the requirements that the component must be used only in the appropriate applications and following the Installation and Owner's Manual instructions.

If during the warranty period the HV20 sectional directional control valve fails due to a defect in any part in material or workmanship that existed at the time of the sale by Heavy Motions Inc., the defective part will be repaired or replaced, at the discretion of Heavy Motions Inc., at no charge, if the defective part is returned to Heavy Motions Inc. with transportation prepaid. Authorization from your sales representative is required to initiate the warranty.

WARNING: The above warranty shall terminate if any alterations or repairs are made to the HV20 sectional directional control valve other than at Heavy Motions Inc.

The foregoing warranty is in lieu of all other obligations and liabilities, including negligence and all warranties of merchantability and suitability, expressed or implied, and state Heavy Motions' entire and exclusive liability and buyer's exclusive remedy for any claim of damages in connection with the sale, repair or replacement of the above goods, their design, installation or operation. Heavy Motions Inc. will in no event be liable for any direct, indirect, special, incidental or consequential damages whatsoever, and our liability under no circumstances will exceed the contract price for the goods for which liability is claimed.

Heavy Motions Inc. is not liable for any repair related cost incurred to the buyer at any time if the repair is conducted by the buyer without written authorization from Heavy Motions Inc.



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