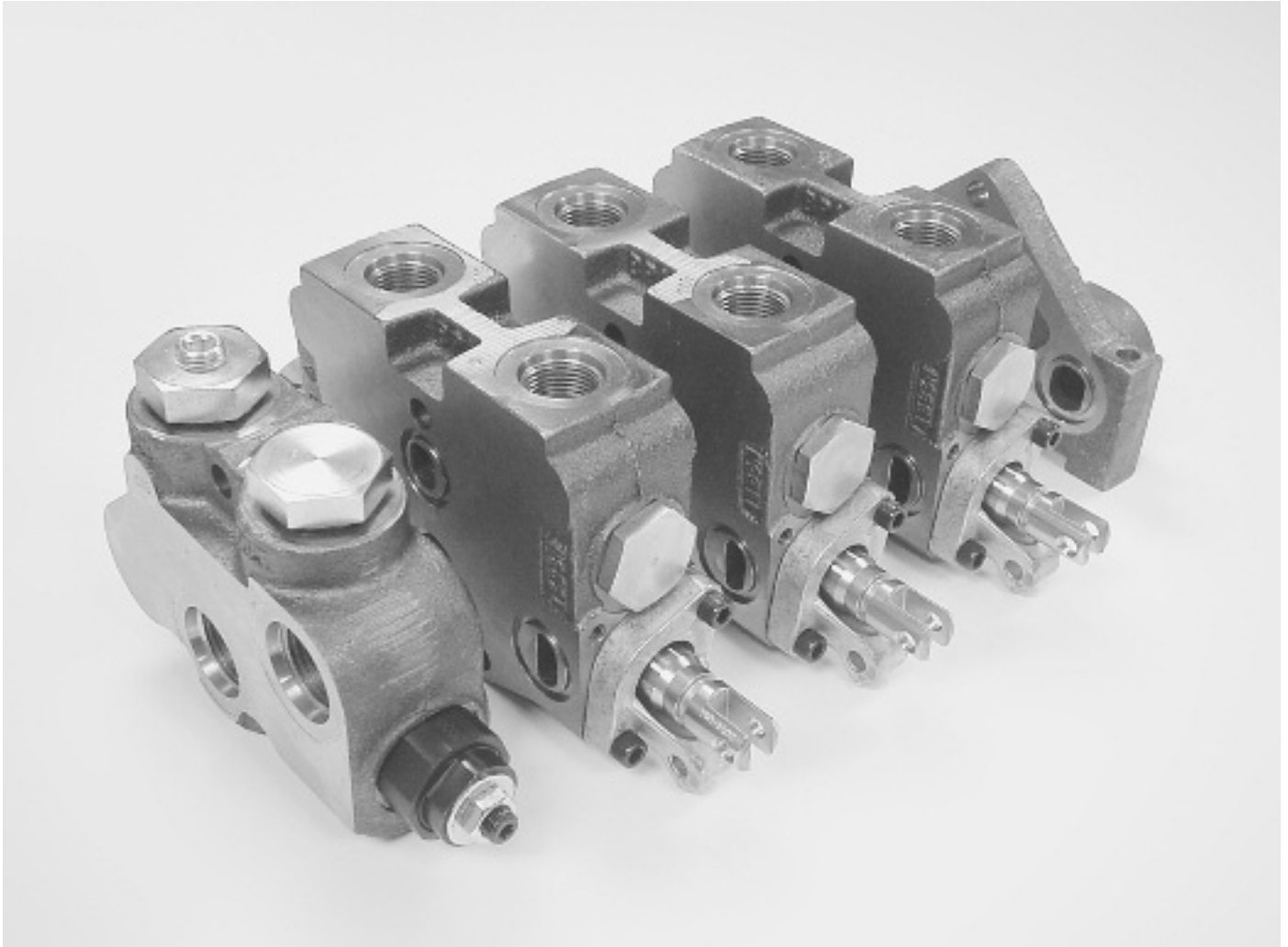




V20 SERIES

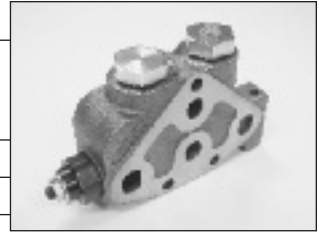
DIRECTIONAL CONTROL VALVE COMPONENTS



30 GPM, 3500 PSI (242 BAR), SECTIONAL TYPE
FOR OPEN CENTER PARALLEL, TANDEM, AND SERIES DESIGN
ALSO
CLOSED CENTER AND LOAD SENSING

V20 INLET COVERS (Housing No.'s 8398 & 7736)

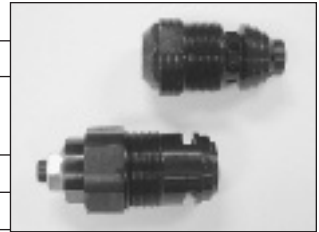
Item No.	Model Number	Part Number	End Inlet	End Outlet	Top Inlet	Top Outlet	3/4" NPT Ports [75]	SAE 12 Ports [BSP]	(7736 Only) With 5-25 GPM Flow Control [FC]
1	20-LC-75	08650030	•	•	•	•	•		
2	20-LC-12	08650029	•	•	•	•		•	
3	20-LC-12-FC	08650028	•	•	•	•		•	•



All the above inlet covers are machined to accept the main relief cartridges listed below.
Two port plugs are furnished loose with each cover, one is machined for 1/4" NPTF gauge port.
Excess flow plug is furnished with all 7736 housings.

V20 Main Relief Options All set at "crack" pressure of 1 GPM.

Item No.	Model Number	Part Number	Pressure Range and Setting				
			500-1249 Set @ 1200 PSI c/p	1250-1749 Set @ 1700 PSI c/p	1750-1999 Set @ 1950 PSI c/p	2000-2599 Set @ 2550 PSI c/p	500-3500 Set @ 3000 PSI c/p
1	WH-1200	08650417	•				
2	WH-1700	08650418		•			
3	WH-1950	08650419			•		
4	WH-2550	08650420				•	
5	RP51A-3000*	08650421					•
6	K-20-NR	08650382	Relief Plug Kit (NR Option)				
7	K-WH-A	08650381	External Screw Adjustable Option for WH Relief				



All above Relief Valves have stainless steel springs.
WH Relief Valves are internal shim adjustable.
* RP51 A Relief Valves are external screw adjustable.

V20 MID-INLET SECTIONS (Housing No. 6825)

Item No.	Model Number	Part Number	Split Flow [SF]	Combined Flow [CF]	3/4" NPT Inlet Ports [75]	SAE 12 Inlet Ports [12]	Internal Pilot Thru-Passage Machined [PILOT]
1	20-75-SF	08650002	•		•		
2	20-75-CF	08650001		•	•		
3	20-12-SF	08650004	•			•	
4	20-12-CF	08650003		•		•	
5	20-12-SF-PILOT	13650918	•			•	•
6	20-12-CF-PILOT	13650919		•		•	•

Housing No. 6825 is rated to a maximum pressure of 2500 PSI.
Contact the factory with higher pressure requirements.

V20 OUTLET COVERS For Open Center (Housing No. 's 6770 & 8644)



Item No.	Model Number	Part Number	SAE 10 Ports [10]	SAE 12 Ports [12]	3/4" NPT Ports [75]	Hsg. 6770 End Outlet [E]	Hsg. 8644* Top Outlet [T]	Solenoid Pilot C'bores Machined [P]	Machined for End Power Beyond (6770 Only) [MY]	¹ Machined for Top Power Beyond (8644 Only)* [MY]	² Includes 12 VDC Pressure Control Cartridge [SOL-12]	² Includes 24 VDC Pressure Control Cartridge [SOL-24]
1	20-RC-10-E	13650145	•			•						
2	20-RC-12-E	13650146		•		•						
3	20-RC-75-E	13650147			•	•						
4	20-RC-12-E-MY	08650024		•		•			•			
5	20-RC-12-E-MY-P ³	26157054		•		•		•	•			
6	20-RC-75-E-MY	08650027			•	•			•			
7	20-RC-12-ET-12-MY ¹	08650022		•			•			•		
8	20-RC-75-ET-75-MY ¹	08650023			•		•			•		
9	20-RC-12-E-SOL-12 ²	08650026		•		•					•	
10	20-RC-12-E-SOL-24 ²	13650307		•		•						•

¹ 8644 covers are supplied with the internal power beyond conversion plug installed. Plugging the top power beyond port will convert the valve to closed center with the internal plug installed.

² (SOL) covers are used in the downstream (V20) valve if a power beyond sleeve is used in the utility section of a solenoid upstream valve.

³ The Solenoid Pilot C'bores machined, designation letter [P], indicates that the pilot seal counterbores have been machined into the upstream side of the right end cover. This outlet cover must be used in V20 valve assemblies when having a solenoid work section next to the outlet cover (i.e. using an upstream Unloading Utility Section).

* Add another section to stud kit to accommodate thicker outlet.

V20 Open Center Option Kits for 6770 'MY' Outlet Covers

Item No.	Model Number	Part Number	Description
1	K-20-C	08650099	Closed Center Plug
2	K-20-X	08650100	Conversion Plug
3	K-20-50-Y	08650101	1/2" NPT Power Beyond Sleeve
4	K-20-08-Y	08650102	SAE 8 Power Beyond Sleeve
5	K-20-10-Y	08650103	SAE 10 Power Beyond Sleeve



These option kits may not be used with 6770 LS (Load Sense) or 8644 covers.

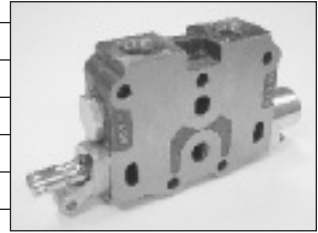
V20 OUTLET COVERS for Load Sensing (Housing No. 6770)

Item No.	Model Number	Part Number	SAE 12 Ports [12]	End Outlet [E]	Includes Load Sense Bleed-Off Cartridge [LS]	SAE 4 Load Sense Port & Pilot Seal C'bores [P-NB]
1	20-RC-12-E-LS	08650025	•	•	•	
2	20-RC-12-E-LS-P-NB	13650169	•	•		•

¹ Covers having the Load Sense Bleed-Off Cartridge [LS] may be converted to No-Bleed-Off. No Bleed-Off covers, however, may NOT be converted to Bleed-Off.

V20P 'PARALLEL' WORK SECTIONS (Housing No. 8072) Manually Operated

Item No.	Model Number	Part Number	3-Way 3-Pos [3]	4-Way 3-Pos [4]	4-Way 3-Pos Free Flow [F4]	4-Way 4-Pos Float [K4]	1/2" NPT Ports [50]	SAE 8 Ports [08]	SAE 10 Ports [10]	Spring Return to Neutral	Knock Out [K04]	Rotary Spool Act. [W]	3-Pos Detent [D]	Stainless Steel Spool [SS]
1	20-50-03	08650017	•				•			•				
2	20-08-03	13650149	•					•		•				
3	20-10-03	08650016	•						•	•				
4	20-50-04	08650021		•			•			•				
5	20-08-04	13650148		•				•		•				
6	20-10-04	08650020		•					•	•				
7	20-50-F4	08650019			•		•			•				
8	20-08-F4	13650151			•			•		•				
9	20-10-F4	08650018			•				•	•				
10	20-08-DF4	13650838			•			•					•	
11	20-10-DF4	08650009			•				•				•	
12	20-50-K4	08650015				•	•							
13	20-08-K4	13650150				•		•						
14	20-10-K4	08650014				•			•					
15	20-10-K04-2000	08650011							•		•			
16	20-1 O-W4 ¹	08650010		•					•			•		
17	20-1 O-W4-SS ¹	08650638		•					•			•		•
18	20-1 O-WF4-SS ¹	08650639			•				•			•		•



¹Bracket assembly not furnished with [W] Rotary Spool Options, Items 16,17 & 18.

V20LO 'LOCKOUT' WORK SECTIONS (Housing No. 11571) Manually-Operated

Item No.	Model Number	Part Number	Pilot-Operated Checks [L]	3-Way 3-Pos [3]	4-Way 3-Pos [04]	1/2" BSP Ports [BSP]	SAE 10 Ports [10]	Spring Return to Neutral
1	20-10-LO4	08650007	•		•		•	•
2	20-10-LO3	1365864	•	•			•	•

V20P 'PARALLEL' WORK SECTIONS (Housing No. 8072) External Solenoid and Remote Pilot-Operated

Item No.	Model Number	Part Number	3-Way 3-Pos [3]	4-Way 3-Pos [4]	4-Way 3-Pos Free Flow [F4]	SAE 10 Ports [10]	Pneumatic Remote [PA1]	Hydraulic Remote with Override [HRO]	Hydraulic Remote with Handle [HRH]	12 VDC External Pilot Solenoid [SOL-E]
1	20-10-03-PA1	13650963	•			•	•			
2	20-10-04-PA1	13650964		•		•	•			
3	20-10-04-HRO ¹	08650578		•		•		•		
4	20-10-F4-HRO	13650965			•	•		•		
5	20-10-04-HRH	08650579		•		•			•	
6	20-10-03-SOL-E-12	13650280	•			•				•
7	20-10-04-SOL-E-12	08650013		•		•				•
8	20-10-F4-SOL-E-12	13650529			•	•				•

¹Bracket assembly not furnished with [HRO] or [HRH] Hydraulic Remote Spool Option, Items 3, 4 & 5.

V20R 'PARALLEL' WORK SECTIONS (Housing No. 10954) Manually-Operated

Item No.	Model Number	Part Number	3-Way 3-Pos [3]	4-Way 3-Pos [4]	4-Way 3-Pos Free Flow [F4]	4-Way 4-Pos Float [K4]	SAE 10 Ports [10]	SAE 12 Ports [12]	Spring Return to Neutral	Knock Out (Set @ 2000 PSI) [K04]	3-Pos Detent [D]	Hydraulic Remote with Override [HR0]	"R" Detent [R]	Internal Pilot Thru-Passage [PILOT]	Pilot Seal Counter Bore [CBORE]
1	20R-10-03	13650856	•						•						
2	20R-12-03	13650857	•					•	•						
3	20R-10-R3	13650855	•					•					•		
4	20R-12-R3	13650858	•					•					•		
5	20R-10-04	08650613		•				•	•						
6	20R-12-04	13650859		•				•	•						
7	20R-10-F4	13650276			•			•	•						
8	20R-12-F4	13650860			•			•	•						
9	20R-10-DF4	13650861			•			•			•				
10	20R-10-K4	13650862				•		•							
11	20R-10-04-PILOT ¹	13650863		•				•	•					•	
12	20R-10-04-CBORE ²	13650962		•				•	•						•

¹The "PILOT" code designates that the internal through-passages have been machined for use when intermixing solenoid and manual work sections.

²The 'CBORE' designates that the pilot seal counterbores have been machined into the upstream side of the work section. This section must be used as the first manual section in V20 valve assemblies using an upstream Unloading Utility Section when having solenoid and manual sections downstream

V20R 'PARALLEL' WORK SECTIONS (Housing No. 10954) Solenoid-Operated

On/Off Solenoids (SOL)

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. [04]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [10]	SAE 12 Work Ports [12]	12 VDC SOL Actuator [SOL-I-12]
1	20-10-04-SOL-I-12	08650986		•		•		•
2	20-10-03-SOL-I-12	08650988	•			•		•
3	20-10-F4-SOL-I-12	08650990			•	•		•
4	20-12-03-SOL-I-12	13650879	•				•	•
5	20-12-04-SOL-I-12	13650880		•			•	•
6	20-12-F4-SOL-I-12	13650881			•	•		•

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20R 'PARALLEL' WORK SECTIONS (Housing No. 10954) Solenoid-Operated

Proportional Solenoids (EPC)

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. [04]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [10]	SAE 12 Work Ports [12]	12 VDC EPC Actuator [EPC-I-12]
1	20-10-04-EPC-I-12	08650987		•		•		•
2	20-10-03-EPC-I-12	08650989	•				•	•
3	20-10-F4-EPC-I-12	08650991			•	•		•
4	20-12-03-EPC-I-12	13650891		•			•	•
5	20-12-04-EPC-I-12	13650892		•		•		•

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20R 'PARALLEL' WORK SECTIONS (Housing No. 10954) Solenoid-Operated

On/Off Solenoids with Handle (SOL-IH)

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. [04]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [F4]	SAE 12 Work Ports [12]	12 VDC SOL with Handle [SOL-IH-12]
1	20-10-04-SOL-IH-12	13650183		•		•		•
2	20-10-03-SOL-IH-12	13650185	•			•		•
3	20-10-F4-SOL-IH-12	13650187			•	•		•
4	20-12-03-SOL-IH-12	13650903	•				•	•
5	20-12-04-SOL-IH-12	13650904		•			•	•
6	20-12-F4-SOL-IH-12	13650905			•		•	•

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20R 'PARALLEL' WORK SECTIONS (Housing No. 10954) Solenoid-Operated

Proportional Solenoids with Handle.

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. [04]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [10]	SAE 12 Work Ports [12]	12 VDC EPC with Handle [EPC-IH-12]
1	20-10-04-EPC-IH-12	13650184		•		•		•
2	20-10-03-EPC-IH-12	13650186	•				•	•
3	20-10-F4-EPC-IH-12	13650188			•	•		•
4	20-12-03-EPC-IH-12	13650915		•			•	•
5	20-12-04-EPC-IH-12	13650916		•		•		•
6	20-12-F4-EPC-IH-12	13650917			•		•	•

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20T 'TANDEM' WORK SECTIONS (Housing No. 10762) Manually-Operated

Item No.	Model Number	Part Number	3-Way 3-Pos [3]	4-Way 3-Pos [4]	4-Way 3-Pos Free Flow [F4]	4-Way 4-Pos Float [K4]	SAE 10 Ports [10]	SAE 12 Ports [12]	Spring Return to Neutral	Knock Out [K04]	'R' Type Detent [R]
1	20T-10-03	13650851	•					•	•		
2	20T-12-03	13650966	•					•			
3	20T-10-R3	13650852	•				•				•
4	20T-12-R3	13650853	•					•			•
5	20T-10-04	08650008		•			•		•		
6	20T-10-K4	13650854				•	•				
7	20T-10-K04-2000	13650967		•			•			•	
8	20T-10-04-PILOT ¹	13650943		•			•		•		
9	20T-10-F4	26157027			•		•		•		

¹The 'PILOT' code designates that the internal through-passages have been machined for use when intermixing solenoid and manual work sections.

V20S 'SERIES' WORK SECTIONS (Housing No. 11483) Manually-Operated

Item No.	Model Number	Part Number	SAE 10 Ports [10]	4-Way 3-Pos. [4]	4-Way 3-Pos. Free Flow [F4]	Spring Return to Neutral	4-Way 4-Pos. Float [K4]
1	20S-10-04	08650637	•	•		•	
2	20S-10-F4	13650850	•		•	•	
3	20S-10-K4	08650640	•				•

V20S (Series) sections may be stacked with V20P (Parallel) and V20T (Tandem) sections. Stacking sequence restrictions apply.

V20C 'CLOSED CENTER' WORK SECTIONS (Housing No. 8364) Manually-Operated

Item No.	Model Number	Part Number	3-Way 3-Pos. [3]	4-Way 3-Pos. [4]	4-Way 3-Pos. Free Flow [F4]	4-Way 4-Pos. Float [K]	Spring Return to Neutral	3-Pos. Detent [D]	R-Type Detented [R]	SAE 10 Ports [10]	Internal Pilot-Thru Passage [PILOT]
1	20C-10-R3	13650839	•						•	•	
2	20C-10-04	08650006		•			•			•	
3	20C-10-F4	13650840			•		•			•	
4	20C-10-DF4	13650841			•			•		•	
5	20C-10-K4	13650842				•				•	
6	20C-10-04-PILOT	13650843		•			•			•	•

The "Pilot" code designates that the internal pilot through-passages have been machined for use when intermixing solenoid and manual sections.

V20LS 'LOAD SENSING' WORK SECTIONS (Housing No. 8364) Manually-Operated

Item No.	Model Number	Part Number	3-Way 3-Pos. [3]	4-Way 3-Pos. [4]	4-Way 3-Pos. Free Flow [F4]	3-Pos. Detent [D]	4-Way 4-Pos. Float [K]	Spring Return to Neutral	'R' Type Detent [R]	SAE 10 Ports [10]	SAE 12 Ports [12]	O-Ring C'bores Machined [CBORE]	Internal Pilot Thru Passage [PILOT]
1	20LS-10-03	13650844	•					•		•			
2	20LS-12-03	13650575	•					•			•		
3	20LS-10-133	13650572	•						•	•			
4	20LS-12-113	13650954	•						•		•		
5	20LS-10-04	08650005		•				•		•			
6	20LS-12-04	13650576		•				•			•		
7	20LS-10-F4	13650277			•			•		•			
8	20LS-12-F4	13650845			•			•			•		
9	20LS-10-DF4	13650846			•	•				•			
10	20LS-12-DF4	13650847			•	•					•		
11	20LS-10-K4	13650848					•			•			
12	20LS-12-K4	13650849					•				•		
13	20LS-10-04-CBORE	13650574		•				•		•		•	
14	20LS-10-04-PILOT	13650170		•				•		•			•

NOTES: The "Cbores" code designates that the pilot seal counterbores have been machined into the upstream side of the work section. This section Must be used as the first manual section in V20 valve assemblies using an upstream Unloading Utility Section when having V20LS solenoid and manual sections downstream.

The "Pilot" code designates that the internal pilot through-passages have been machined for use when intermixing solenoid and manual sections.

V20LS 'LOAD SENSING' WORK SECTIONS (Housing No. 8364) Solenoid-Operated

On/Off Solenoids (SOL)

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. [04]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [10]	12 VDC On-Off SOL Actuator [SOL-I]
1	20LS-10-04-SOL-I-12	08650992		•		•	•
2	20LS-10-03-SOL-I-12	08650994	•			•	•

Load Sensing sections may be used for Closed Center or Load Sensing applications. When used for non-load sensing applications, the load sensing passage must be blocked off at the right outlet cover.

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20LS 'LOAD SENSING' WORK SECTIONS (Housing No. 8364) Solenoid-Operated

Proportional Solenoids (EPC)

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [10]	12 VDC EPC Actuator [EPC-I-12]
1	20LS-10-03-EPC-I-12	08650995	•		•	•
2	20LS-10-F4-EPC-I-12	08650997		•	•	•

Load Sensing sections may be used for Closed Center or Load Sensing applications. When used for non-load sensing applications, the load sensing passage must be blocked off at the right outlet cover.

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20 LS 'LOAD SENSING' WORK SECTIONS (Housing No. 8364) Solenoid-Operated

On/Off Solenoids with Handle.

Item No.	Model Number	Part Number	3-Way 3-Pos. [03]	4-Way 3-Pos. [04]	4-Way 3-Pos. Free Flow [F4]	SAE 10 Work Ports [10]	12VDC SOL with Handle [SOL-IH-12]
1	20LS-10-04-SOL-IH-12	13650243		•		•	•
2	20LS-10-03-SOL-IH-12	13650245	•			•	•
3	20LS-10-F4-SOL-IH-12	13650247			•	•	•

Load Sensing sections may be used for Closed Center or Load Sensing applications. When used for non-load sensing applications, the load sensing passage must be blocked off at the right outlet cover.

All V20 internally piloted Solenoid Valve Bonnets are machined to accept the V20 Travel Limiter/Manual Override Kits.

V20 UTILITY SECTIONS For Use With Internally Piloted Valves (Housing No. 7820)

For use with V20 Internally Piloted Solenoid Work Sections. (Not compatible with Externally Piloted Sections)

Item No.	Model Number	Part Number	Description
1	20-SOL-I-UT-12	13650056	Utility Section with 12 VDC Pressure Control Cartridge Installed
2	20-SOL-I-UT-24	13650308	Utility Section with 24 VDC Pressure Control Cartridge Installed
3	20-SOL-I-UT-LS	13650057	Utility Section for use with Closed Center/Load Sensing valve assemblies
4	20-SOL-I-UT-MECH	13650920	Utility Section with Continuous-On Pressure Control Cartridge
5	20-SOL-I-UT-PB	13650921	Utility Section for use with SAE #12 Power Beyond Sleeve

Utility Section must be stacked directly upstream from the right outlet cover.

V20 UNLOADING UTILITY SECTIONS (Housing No. 22952)

Allows closed center, load sensing and pressure compensated work sections to be used with a fixed displacement pump.

Item No.	Model Number	Part Number	Description
1	20-UV-12-LS	13650683	V20 Unloading Valve Section without Internal Pilot Pressure (Manual Valves)
2	20-UV-1 2-PRV-LS	13650684	V20 Unloader Valve Section with Internal Pilot Pressure (Solenoid Valves)
3	K-20-UNL-PLUGS	13650775	Option Plugs for Utility Section with Unloading Valve (See Note 2)

NOTE 1: The Unloading Valve section should be stacked next to the inlet cover unless priority sections are required. When priority is required, install unloading valve section downstream of priority pressure compensated sections. Open center, tandem and parallel sections should be stacked downstream of the unloading valve section.

NOTE 2: The following parts will be included to cover several application requirements:

Part No.	Quantity	Description	} K-20-UNL-PLUGS
21866001	3	Pilot Hole Seals	
21857001	2	Section Seals	
21733001	2	Section Seals	
00017001	1	1/4" NPTF Plug	
22962001	3	Expansion Plugs 6 mm - Old Style	
26095006	3	Expansion Plugs 6 mm - New Style	
26291001	1	Form No. 3933	

V20 UTILITY SECTIONS For Use With Externally Piloted Valves (Housing No. 7820)

(Not for Use in Internally Piloted Valve Assemblies)

Item No.	Model Number	Part Number	Description
1	20-SOL-E-UT-12	08650031	Utility Section with 12 VDC Pressure Control Cartridge Installed.
2	20-SOL-E-UT-24	13650309	Utility Section with 24 VDC Pressure Control Cartridge Installed.
3	20-SOL-E-UT-MECH	13650922	Utility Section with Continuous-On Pressure Control Cartridge
4	20-SOL-E-UT-PB	13650923	Utility Section with SAE #12 Power Beyond Sleeve

Fitting Kits For Externally Piloted V20 Solenoid Valves

Item No.	Model Number	Part Number	Description
1	K-20-S1	8650085	For single spool solenoid valve
2	K-20-S2	8650082	For First section (closest to valve inlet) in a multi-spool solenoid valve.
3	K-20-S3	8650083	For the center section(s) in a multi-spool solenoid valve.
4	K-20-S4	8650084	For the last section (closest to utility section) in a multi-spool solenoid valve.

Each kit contains one adjustable speed control fitting assembly and one non-adjustable fitting assembly for one actuator assembly.

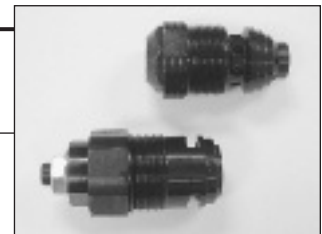
Tubeing Kit for Externally-Piloted Utility Sections

Item No.	Model Number	Part Number	Description
1	K-20-TUBE	08650086	Tubeing assembly between Utility Section and Solenoid Spool Actuator

Optional Cartridges for the Utility Section

Item No.	Model Number	Part Number	Description
1	K-20-CONT-ON	08650430	Mechanical Pressure Control Cartridge
2	K-20-12-CNTRL	13650938	12 VDC Pressure Control Cartridge
3	K-20-24-CNTRL	13650939	24 VDC Pressure Control Cartridge
4	K-20-S12Y	08650115	Power Beyond Sleeve, SAE 12
5	K-20-SC	08650114	Closed Center Plug

Work Port Options for use in V20P, V20R, V20T, V20C & V20LS Work Sections



Item No.	Model Number	Part Number	Relief Valve	Load Check Assembly	Combination Relief & Anti-Cav Check	Anti-Cavitation Check Assembly	Pressure Range and Setting					
							500-1249 Set @ 500 PSI c/p	500-1249 Set @ 1200 PSI c/p	1250-1749 Set @ 1700 PSI c/p	1750-1999 Set @ 1950 PSI c/p	2000-2599 Set @ 2550 PSI c/p	500-3500 Set @ 2500 PSI c/p
1	RC-500	13650156	•				•					
2	RC-1200	08650394	•					•				
3	RC-1700	08650395	•							•		
4	RC-1950	08650396	•								•	
5	RC-2550	08650397	•									•
6	RP20A-2500	08660975	•									•
7	CRA-1200	08650387			•			•				
8	CRA-1700	08650388			•					•		
9	CRA-1950	08650389			•						•	
10	CRA-2550	08650390			•							•
11	K-20-AC	08650380				•						
12	K-6030-C	—		•								

Work Port Options for use in V20S Work Sections

Item No.	Model Number	Part Number	Relief Valve	Anti-Cavitation Check Assembly	Pressure Range and Setting			
					500-1249 Set @ 1200 PSI c/p	1250-1749 Set @ 1700 PSI c/p	1750-1999 Set @ 1950 PSI c/p	2000-2599 Set @ 2550 PSI c/p
1	RCS-1200	08650632	•		•			
2	RCS-1700	08650633	•			•		
3	RCS-1950	08650634	•				•	
4	RCS-2550	08650635	•					•
5	K-20-ACS	08650636		•				

For use in V20S Series sections only.

Work Port Options for use in V20PC Work Sections

Item No.	Model Number	Part Number	Relief Valve	Pressure Range and Setting			
				500-1249 Set @ 1200 PSI c/p	1250-1749 Set @ 1700 PSI c/p	1750-1999 Set @ 1950 PSI c/p	2000-2599 Set @ 2550 PSI c/p
1	RCPC-1200	13650930	•	•			
2	RCPC-1700	13650931	•		•		
3	RCPC-1950	13650932	•			•	
4	RCPC-2550	13650933	•				•

All above Relief Valves have stainless steel springs. Crack Pressures (c/p) set at 1 GPM.

RC, CRA, RCS, and RCPC Relief Valves are internal shim adjustable. RP20A Relief Valve is external screw adjustable.

Relief External Adjustment Kit

Item No.	Model Number	Part Number	Description
1	K-WH-A	08650381	External Screw Adjustable Option for RC, CRA, RCS, and RCPC Relief Valves

V20 Travel Limiter/Manual Overrides

May be added to above Solenoid/EPC positioners

Item No.	Model Number	Part Number	Description
1	K-20-MO-P	13650080	Push type manual override for use with [SOL] and [EPC] Sections
2	K-20-TL-MO-S	13650081	Screw type travel limiter/manual override for use with [SOL] and [EPC] Sections
3	K-20-TL-IH	13650937	Screw type travel limiter for use with [SOL-IH] and [EPC-IH] sections, handle end only

Each kit includes one assembly for one end of valve.

V20 Spool Positioner Option Kits

Will not fit Float [F] or Internal Hydraulic Detent Release [KO] Spools.

Item No.	Model Number	Part Number	Description
1	K-20-A	08650104	Spring Extended Spool Positioner Kit
2	K-20-D	08650105	3-Position Detent Kit
3	K-20-R	08650106	Spool "IN" Detent w/Spring Return to Neutral Positioner Kit
4	K-20-R0	26157043	Spool "OUT" Detent w/Spring Return to Neutral Positioner Kit
5	*K-20-SOL-E-12	08650098	12VDC Solenoid Actuator (External Pilot Design)
6	**K-20-SOL-E-24	13650531	24 VDC Solenoid Actuator (External Pilot Design)
7	K-20-E	08650119	Electro Magnetic Spool Release Positioner Kit
8	*K-20-HR	08650575	Hydraulic Remote Spool Actuator Kit
9	*K-20-HR0	08650574	Hydraulic Remote w/Override Spool Actuator Kit
10	K-20-PA1	08650630	Pneumatic Spool Actuator Kit
11	K-20-PA2	08650631	12V DC Solenoid Operated Pneumatic Spool Actuator Kit
12	K-6125	—	Standard Spring Center Kit

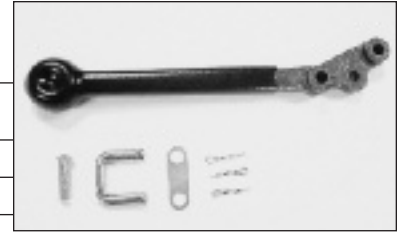


*Contains both Bonnets needed.

**Cannot be used with Float Spool (K4) or Standard Free Flow Spool (F4).

V20 Handle End Options

Handle Kits Contain Necessary Links and Pins.



Item No.	Model Number	Part Number	Description
1	K-20-VH-B	08650151	Vertical Handle (Black)
2	K-20-VH-P	08650153	Vertical Handle (Plain)
3	K-20-HH-B	08650154	Horizontal Handle (Black)
4	K-20-HH-P	08650156	Horizontal Handle (Plain)
5	K-20-RET	08650107	Standard Seal Retainer Plate
6	K-20-RET-HD	08650108	Heavy Duty Seal Retainer
7	K-20-WIPER	08650097	Sec. Spool Wiper
8	K-20-HBO-CI	08650113	Complete Bracket (Cast Iron) less Handle and Links
9	K-20-BOOT	08650112	Spool Boot Assembly

V20 Mechanical Joysticks

Includes the Spool Adapter Clevis.

Item No.	Model Number	Part Number	Description
1	MJA2-20L-NN	13650688	V20 Mechanical Joystick, Left-Hand Kit
2	MJA2-20R-NN	13650689	V20 Mechanical Joystick, Right-Hand Kit
3	K-20-MJA-0	26157200	V20 Mechanical Joystick 'Offset' Handle Kit
4	K-20-MJA-S	26157201	V20 Mechanical Joystick 'Straight' Handle Kit

V20 Standard Section Stud Assembly Kits

Includes Section Seals and Nuts. (Stud Kits **Do Not include** 21866-001 Load Sensing and Solenoid Pilot Passage Section Seals. Stud Kits do not include 21857-001 (1) seal for closed center sections. These seals must be purchased separately if required.)



Item No.	Model Number	Part Number	Description
1	K-20-1	08650087	One Section
2	K-20-2	08650088	Two Section
3	K-20-3	08650089	Three Section
4	K-20-4	08650090	Four Section
5	K-20-5	08650091	Five Section
6	K-20-6	08650092	Six Section
7	K-20-7	08650093	Seven Section
8	K-20-8	08650094	Eight Section
9	K-20-9	08650095	Nine Section
10	K-20-10	08650096	Ten Section
11	K-20-SECT-SEAL*	13650405	Section seal for load sensing and/or solenoid pilot passages.

When using an 8644 Right End Cover add one section to assure proper stud length. Note: Torque stud nut to 32 ft.-lbs. (43.5Nm).

*Kit includes 25 pieces of seal number 21866001.

