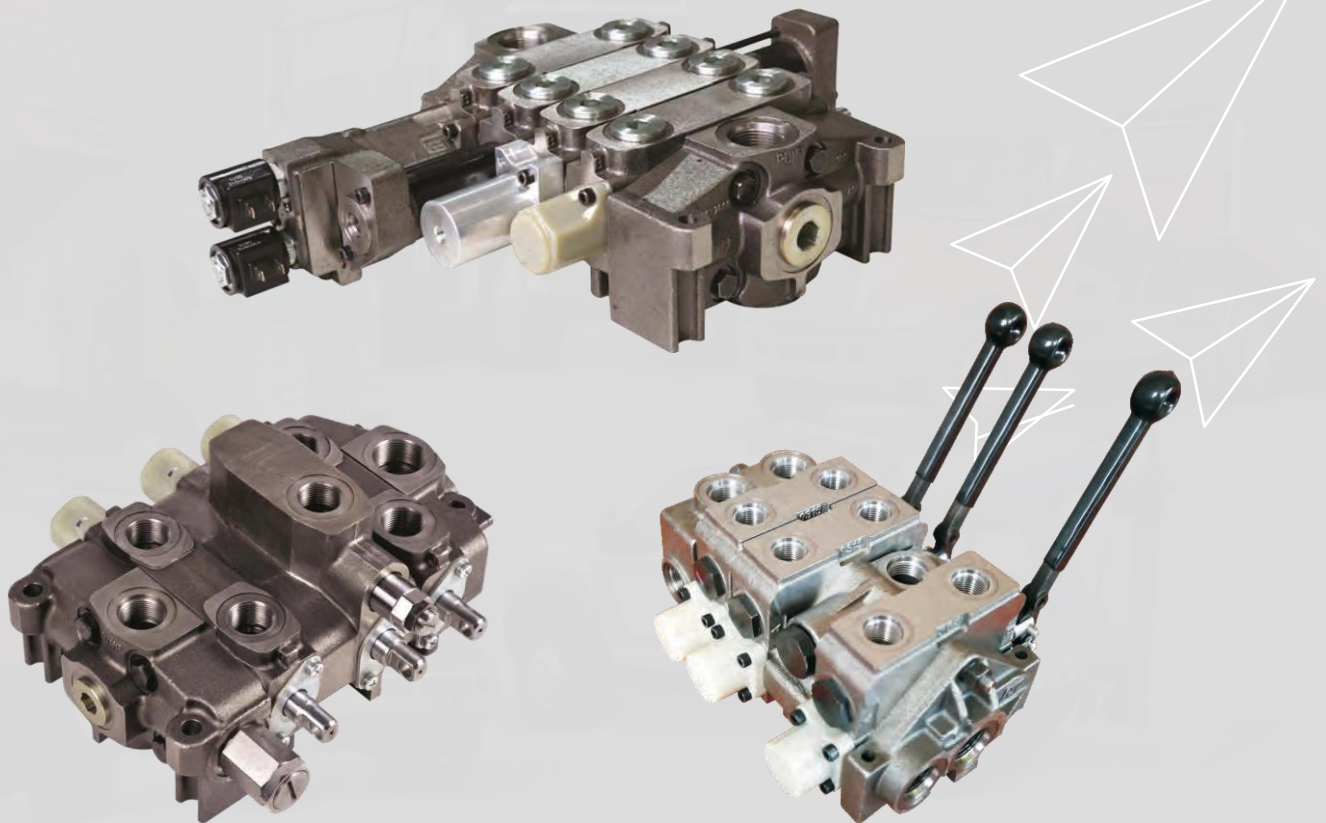


V20, VG20, VG35 Series Directional Control Valves



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VG20/35 Valves

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VG20

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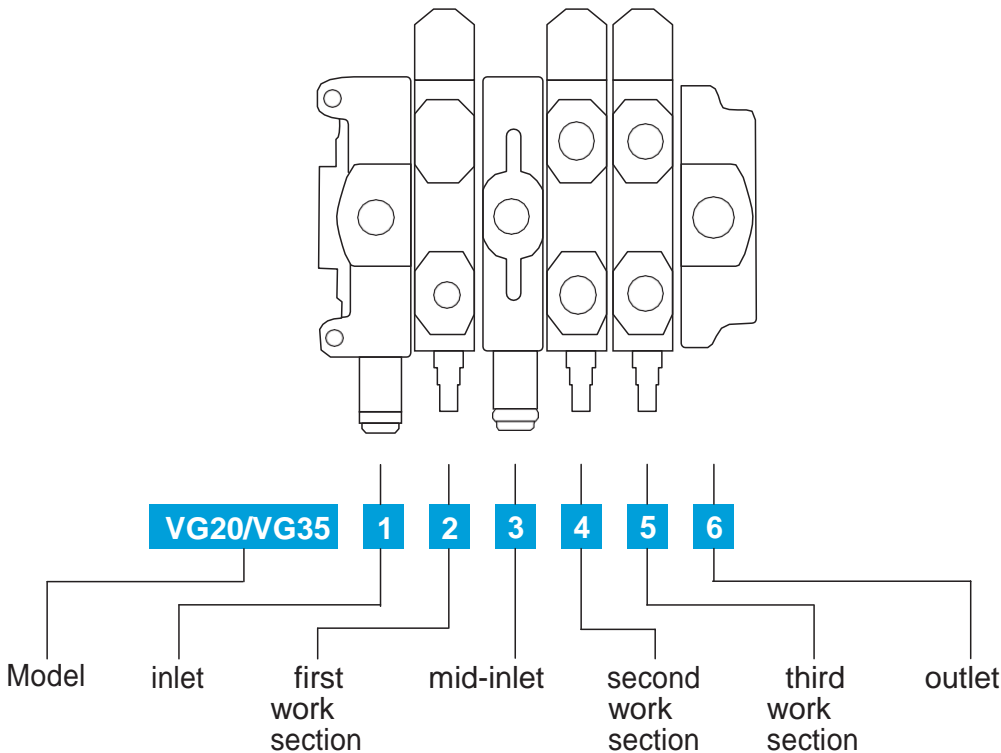
V20 Series Valve

.....	21
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VG20/35 Valves

How to specify code

- A. Determine the system pressure and required flow through the valve and select the appropriate valve model.
- B. Determine the number and order of sections required.
- C. Specify the requirements for each of the sections - and select the appropriate codes for those requirements.
- D. Assemble the code, specifying the model and then each section starting with the inlet and continue to the outlet.



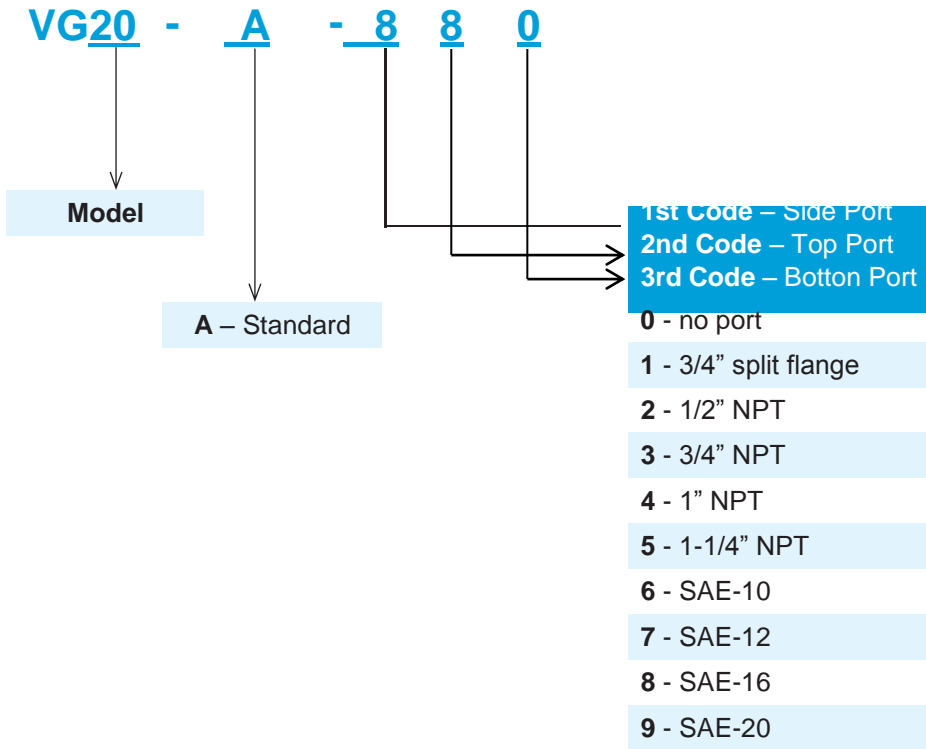
section	requirements	code
Model	VG20 System pressure: 2500 psi ~3500 psi, Valve flow :40gpm VG35 System pressure: 2500 psi ~3500 psi, Valve flow :70gpm	VG20/VG35
1 Inlet (pages 2&10)	Standard inlet with relief valve set at 2500 psi and - 16- <small>SAE</small> straight thread top ports	AA080 (2500)
2 First Work Section (pages 4&12)	Lo-Boy - double - acting cylinder, parallel circuit - spring return - 12- <small>SAE</small> straight thread ports	DA7
3 Mid-section Inlet (pages 5&13)	Combined flow type without a relief valve - 12- <small>SAE</small> straight thread port	CCA70
4 Second WorkSection (pages 4&12)	Lo-Boy - double-acting motor, parallel circuit - spring return - 12- <small>SAE</small> straight thread port	MA7
5 Third Work Section (pages 4&12)	Lo-Boy - double-acting cylinder, parallel circuit - solenoid operated - 12- <small>SAE</small> straight thread port	DK7
6 Outlet Section (pages 6&14)	Return to tank type - 16- <small>SAE</small> straight thread top port	Z080

example of assembled valve ordering code

VG20-AA080 (2500) - DA7 - CCA70 - MA7 - DK7 - Z080

VG20

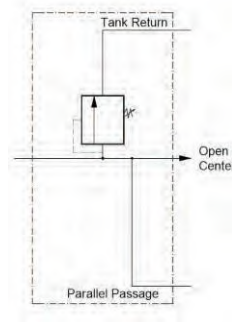
Inlet Coding Table



Standard

Part Number	Replacement for	Side Port	Top Port	Remark
VG20-A440	347-9175-001	1"NPT	1"NPT	Without MRV
VG20-A770	347-9175-004	SAE-12	SAE-12	Without MRV
VG20-A880	347-9175-002	SAE-16	SAE-16	Without MRV

Includes plastic port plugs

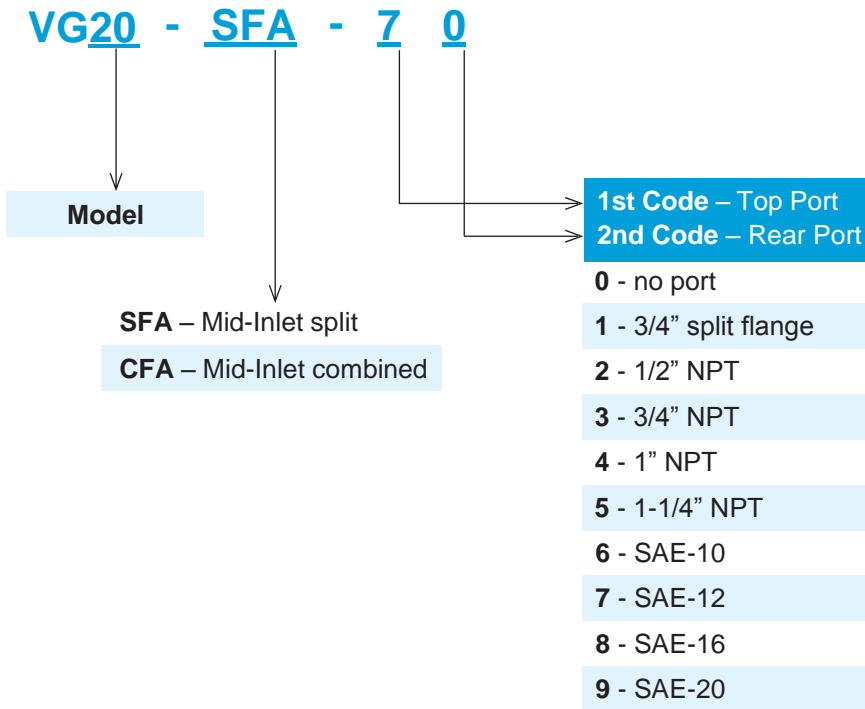


Schematic with MRV

VG20

Mid-Inlet Coding Table

Machined for MRV or MRVP.



Combined Flow - Combines primary & secondary pump flows for faster operating speed of downstream functions.

Part Number	Replacement for	Top Port	Rear port
VG20-CFA30	347-9174-003	3/4"NPT	none
VG20-CFA70	347-9174-004	SAE-12	none

Split Flow - Separates primary and secondary pump flows. One valve bank operates like two.

Part Number	Replacement for	Top Port	Rear port
VG20-SFA30	347-9174-001	3/4"NPT	none
VG20-SFA70	347-9174-002	SAE-12	none

Main Relief Valves (MRV) Inlet - Mid-inlets
differential type, screw adjustable

Part Number	Replacement for	Description
VG20-MRV	391-1873-001	2000PSI@30GPM 500~2500PSI screw adjustable
VG20-HMRV	391-1873-128	3000PSI@30GPM 2000~3500PSI screw adjustable
VG20-MRVP	391-1873-002	Main relief valve plug with seal washer

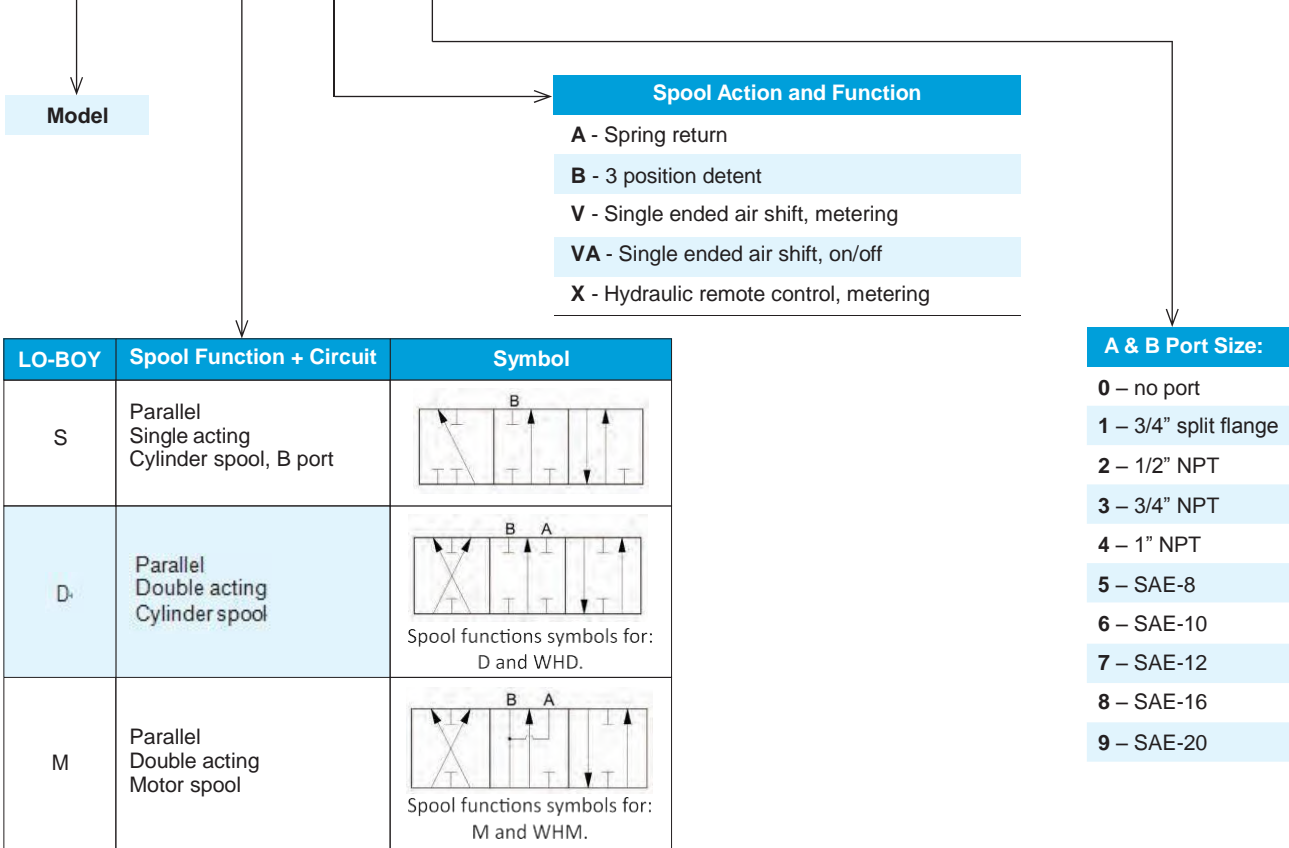
MRV and MRVP torque 75 ft. lbs. (900 in. lbs.)



VG20

Low-boy Work Section Coding Table

VG20 - D A 7



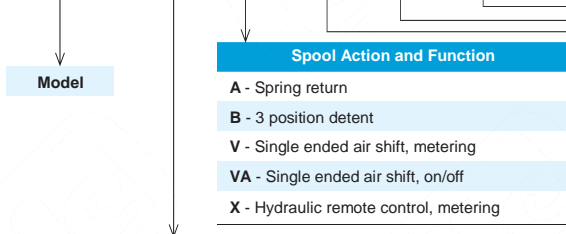
WORK SECTION

GENERAL NO.	REPLACEMENT FOR	DESCRIPTION
VG20-DA3	347-9172-002	Double action, cyl, spring return, 3/4" NPT ports
VG20-DA7	347-9172-003	Double action, cyl, spring return, SAE-12 ports
VG20-DB3	347-9172-026	Double action, cyl, 3 pos detent, SAE-12 ports
VG20-DB7	347-9172-027	Double action, cyl, 3 pos detent, SAE-12 ports
VG20-SA3	347-9171-002	Single action, cyl, spring return, 3/4" NPT ports
VG20-SA7	347-9171-003	Single action, cyl, spring return, SAE-12 ports
VG20-MA3	347-9172-005	Double action, float, spring return, 3/4" NPT ports
VG20-MA7	347-9172-006	Double action, float, spring return, SAE-12 ports
VG20-MB3	347-9172-039	Double action, float, 3 pos detent, 3/4" NPT ports
VG20-MB7	347-9172-040	Double action, float, 3 pos detent, SAE-12 ports
VG20-DV3	347-9172-033	Double action, cyl, airshift, spring return, 3/4" NPT ports
VG20-DV7	347-9172-034	Double action, cyl, airshift, spring return, SAE-12 ports
VG20-MV3	347-9172-136	Double action, float, airshift, spring return, 3/4" NPT ports
VG20-MV7	347-9172-137	Double action, float, airshift, spring return, SAE-12 ports
VG20-SV7	347-9171-018	SINGLE action, cyl, airshift, spring return, SAE-12 ports
VG20-DX3	347-9172-043	Double action, cyl, metered hydra control, spring return, 3/4" NPT ports
VG20-DX7	347-9172-044	Double action, cyl, metered hydra control, spring return, SAE-12 ports
VG20-MX3	347-9172-062	Double action, float, metered hydra control, spring return, 3/4" NPT ports
VG20-MX7	347-9172-063	Double action, float, metered hydra control, spring return, SAE-12 ports
VG20-DX7	347-9172-044	Double action, cyl, metered hydra control, spring return, SAE-12 ports
VG20-MX3	347-9172-062	Double action, float, metered hydra control, spring return, 3/4" NPT ports
VG20-MX7	347-9172-063	Double action, float, metered hydra control, spring return, SAE-12 ports

VG20

Hi-boy Work Section Coding Table

VG20 - D A 0 5 5



- Spool Action and Function**
- A - Spring return
 - B - 3 position detent
 - V - Single ended air shift, metering
 - VA - Single ended air shift, on/off
 - X - Hydraulic remote control, metering

HI-BOY	Spool Function + Circuit	Symbol
J	Parallel Single acting Cylinder spool, B port	
H	Parallel Double acting Cylinder spool	
WH	Series Double acting Cylinder spool	 Spool functions symbols for: D and WH.
L	Parallel Double acting Motor spool	
WL	Series Double acting Motor spool	 Spool functions symbols for: M and WL.

- A & B Port Size:**
- 0 - no port
 - 1 - 3/4" split flange
 - 2 - 1/2" NPT
 - 3 - 3/4" NPT
 - 4 - 1" NPT
 - 5 - SAE-8
 - 6 - SAE-10
 - 7 - SAE-12
 - 8 - SAE-16
 - 9 - SAE-20

- accessory valve**
- Port A**
- 0 - not machined
 - 1 - relief valve and anti-cavitation
 - 2 - anti-cavitation
 - 3 - relief valve
 - 4 - crossover relief
 - 5 - machined with plastic Port covers (standard)
 - 9 - plugged

- accessory valve**
- Port B**
- 0 - not machined
 - 1 - relief valve and anti-cavitation
 - 2 - anti-cavitation
 - 3 - relief valve
 - 4 - crossover relief
 - 5 - machined with plastic Port covers (standard)
 - 9 - plugged

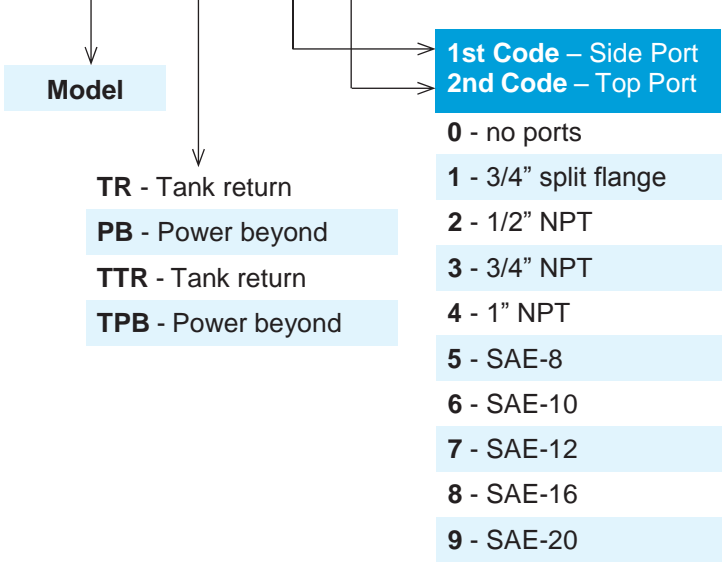
HI-BOY WORK SECTION

GENERAL NO.	REPLACEMENT FOR	DESCRIPTION
VG20-HA055	347-9172-007	Hi-BOY, Double action ,cyl, spring return, no ported
VG20-HA355	347-9172-008	Hi-BOY, Double action ,cyl, spring return, 3/4" NPT ports
VG20-HA755	347-9172-009	Hi-BOY, Double action ,cyl, spring return, SAE-12 ports
VG20-HB355	347-9172-011	Hi-BOY, Double action ,cyl, 3 pos detent, 3/4" NPT Ports,
VG20-HB755	347-9172-018	Hi-BOY, Double action ,cyl, 3 pos detent, SAE-12 ports
VG20-JA005	347-9172-004	Hi-BOY, Single action ,cyl, spring return, no ported
VG20-JA305	347-9172-005	Hi-BOY, Single action ,cyl, spring return, 3/4" NPT B ports
VG20-JA755	347-9172-006	Hi-BOY, Single action ,cyl, spring return, SAE-12 B ports
VG20-LA355	347-9172-011	Double action ,float , spring return, 3/4"NPT ports
VG20-LA755	347-9172-012	Double action ,float , sorina return,SAE-12 ports
VG20-LB355	347-9172-077	Double action ,float , 3 pos detent, 3/4" NPT ports
VG20-LB755	347-9172-078	Double action ,float , 3 pos detent, SAE-12 ports
VG20-HV355	347-9172-024	Double action ,cyl, airshift ,spring return, 3/4" NPT ports
VG20-HV755	347-9172-025	Double action ,cyl, airshift ,spring return, SAE-12 ports
VG20-HX755	347-9172-046	Double action ,cyl, metered hydra control ,spring return, SAE-12 ports
VG20-LX355	347-9172-072	Double action ,float , metered hydra control ,spring return, 3/4" NPT ports
VG20-LX755	347-9172-073	Double action ,float , metered hydra control ,spring return, SAE-12 ports
VG20-HV755	347-9172-025	Double action ,cyl, airshift ,spring return, SAE-12 ports
VG20-HX355	347-9172-045	Double action ,cyl, metered hydra control ,spring return, 3/4" NPT ports
VG20-HX755	347-9172-046	Double action ,cyl, metered hydra control ,spring return, SAE-12 ports
VG20-LX355	347-9172-072	Double action ,float , metered hydra control ,spring return,3/4" NPT ports
VG20-LX755	347-9172-073	Double action ,float , metered hydra control ,spring return, SAE-12 ports
VG20-WHA355		In series , Double action ,cyl, spring return, 3/4" NPT ports
VG20-WHA755		In series , Double action ,cyl, spring return, SAE-12 ports
VG20-WHB355		In series , Double action ,cyl, 3 pos detent, 3/4" NPT ports,
VG20-WHB755		In series , Double action ,cyl, 3 pos detent, SAE-12 ports
VG20-WLA355		In series , Double action , float, spring return, 3/4" NPT ports
VG20-WLA755		In series , Double action , float, spring return, SAE-12 ports
VG20-WLB355		In series , Double action , float, 3 pos detent, 3/4" NPT ports,
VG20-WLB755		In series , Double action , float, 3 pos detent, SAE-12 ports

VG20

Outlet - Coding Table

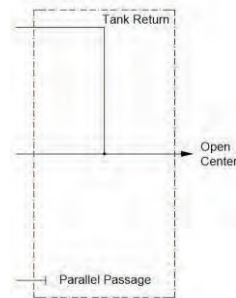
VG20 **TR - 8** **8**



Tank Return

Part Number	Replacement for	Side Port	Top Port
VG20-TR44	347-9176-001	1"NPT	1"NPT
VG20-TR50	347-0176-501	1-1/4" NPT	no port
VG20-TR88	347-9176-002	SAE-16	SAE-16
*VG20-TTR88	347-9176-007	SAE-16	SAE-16
*VG20-TTR90	347-9176-024	SAE-20	no port

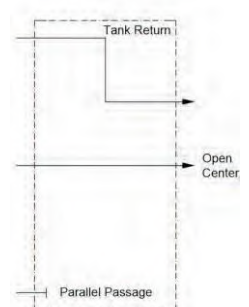
Note: * For 3500psi application



Power Beyond

Part Number	Replacement for	Side Port LP	Side Port HP	Top Port LP	Top Port HP
VG20-PB08	347-9176-005	no port	no port	SAE-16	SAE-16
VG20-PB44	347-9176-003	1"NPT	1"NPT	1"NPT	1"NPT
VG20-PB80	347-9176-004	SAE-16	SAE-16	no port	no port
VG20-PB88	347-9176-007	SAE-16	SAE-16	SAE-16	SAE-16
*VG20-TPB88	347-9176-008	SAE-16	SAE-16	SAE-16	SAE-16

Note: * For 3500psi application



VG20

Stud Kits



Part Number	Replacement for
VG20-SK-1	391-1873-045
VG20-SK-2	391-1873-046
VG20-SK-3	391-1873-047
VG20-SK-4	391-1873-048
VG20-SK-5	391-1873-049
VG20-SK-6	391-1873-050
VG20-SK-7	391-1873-051
VG20-SK-8	391-1873-052

SK studs - torque 29ft. lbs. (348in. lbs.) for 2500psi

Thru Hole Stud Kits



Part Number	Replacement for
VG20-TSK-1	391-1873-129
VG20-TSK-2	391-1873-130
VG20-TSK-3	391-1873-131
VG20-TSK-4	391-1873-132
VG20-TSK-5	391-1873-133
VG20-TSK-6	391-1873-134
VG20-TSK-7	391-1873-135
VG20-TSK-8	391-1873-136

TSK studs - torque 42ft.lbs. (504in. lbs.) for 3500psi use thru hole outlets

Work Section Spool Actuator Kits

Part Number	Replacement for	Function
VG20-K-100	391-1873-019	Spring return
VG20-K-101	391-1873-020	3 position detent
VG20-K-109	391-1873-173	Metering hyd remote control
VG20-K-113	391-1873-206	Metering air shift
VG20-K-113A		Airshift on/off



Work Section

VG20

Spools

Part Number	Replacement for	Description
VG20-SPL-1	391-1873-067	4 way/3 position, hold in neutral
VG20-SPL-3	391-1873-071	4 way/3 position, float in neutral
VG20-SPL-5	391-1873-075	3 way/3 position, hold in neutral

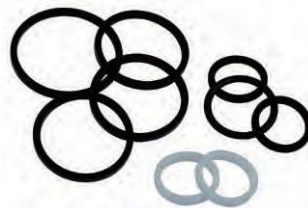


Seal Kits

Part Number	Replacement for	Kit	Kit Contains
VG20-K-1	391-2873-035	Work section assembly kit	4 section seals
VG20-K-2	391-1873-036	Work section repair kit	7 seals & 2 spool support rings



K-1



K-2

Handle Assembly

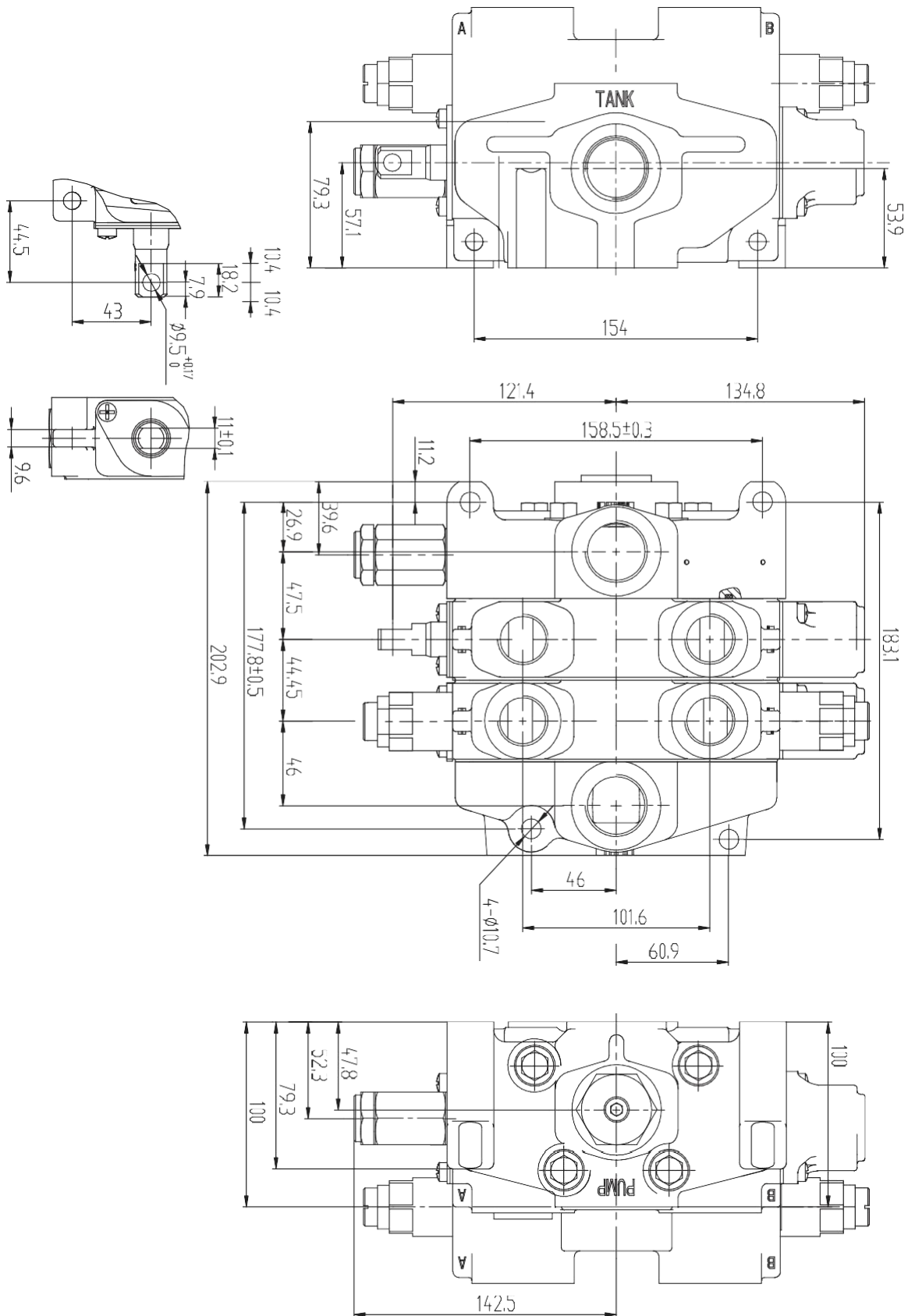
- includes linkage kit.

H style handles are for Hi-Boy sections with port relief valve on the handle side.

Part Number	Replacement for	Description
VG20-H-4	391-1873-094	Handle 8"
VG20-H-6	391-1873-061	Handle 6" H style for Hi-BOY
VG20-H-8	391-1873-062	Handle 8" H style for Hi-BOY
VG20-H-10	391-1873-063	Handle 10" H style for Hi-BOY

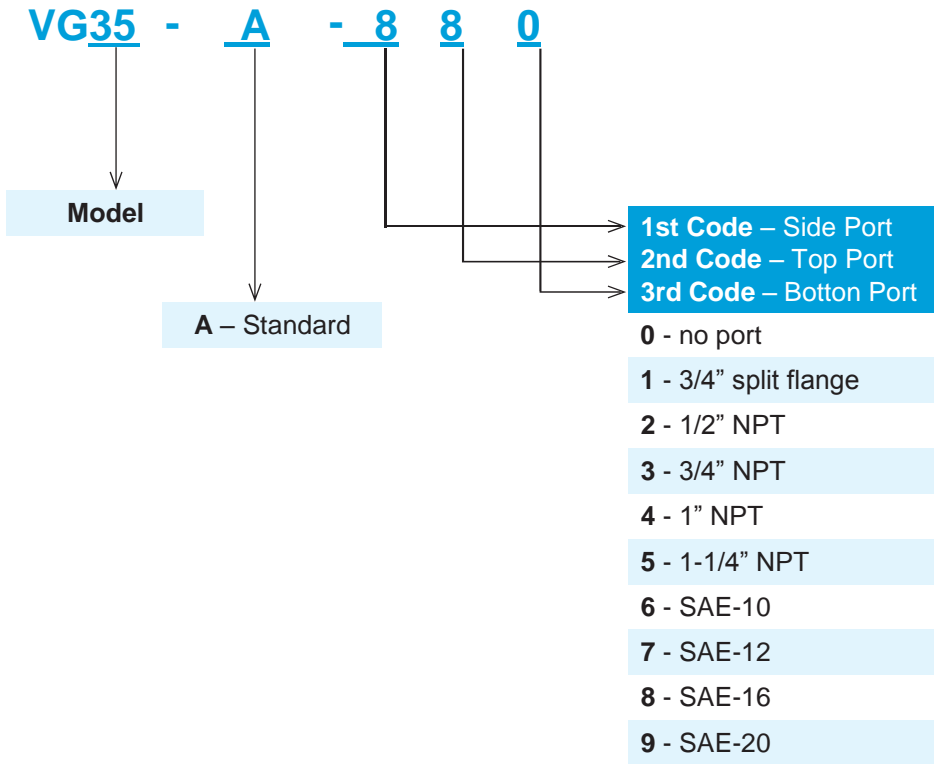


VG20
Dimensional Data



VG35

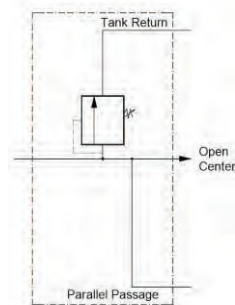
Inlet Coding Table



Standard

Part Number	Replacement for	Side Port	Top Port	Remark
VG35-A440	348-9175-001	1"NPT	1"NPT	Without MRV
VG35-A880	348-9175-005	SAE-16	SAE-16	Without MRV
VG35-A980	348-9175-002	SAE-20	SAE-16	Without MRV
VG35-A990		SAE-20	SAE-20	Without MRV

Includes plastic port plugs

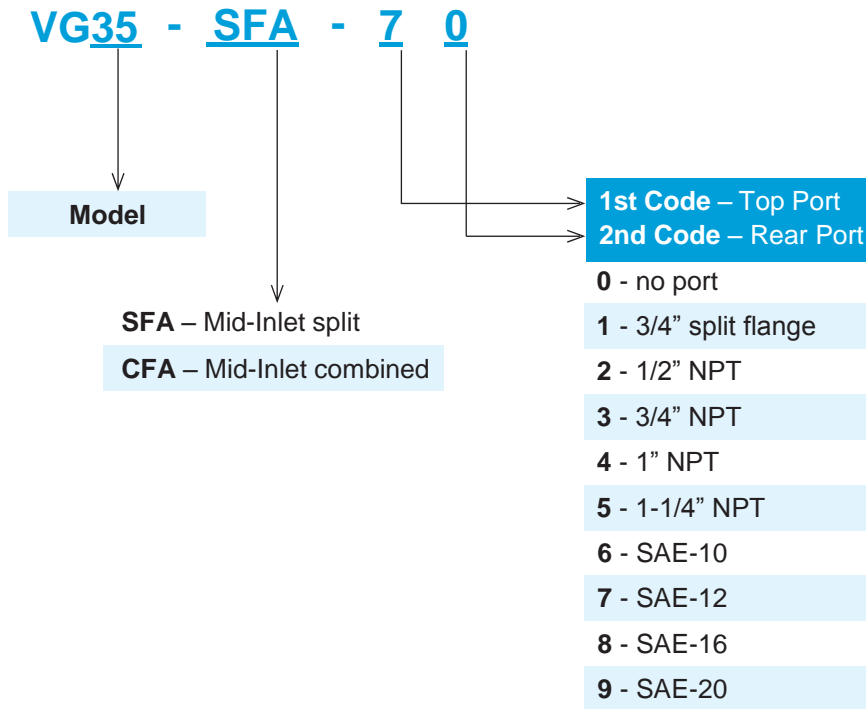


Schematic with MRV

VG35

Mid-Inlet Coding Table

Machined for MRV or MRVP.



Combined Flow - Combines primary & secondary pump flows for faster operating speed of downstream functions.

Part Number	Replacement for	Top Port	Rear port
VG35-CFA40	348-9174-003	1"NPT	none
VG35-CFA80	348-9174-004	SAE-16	none

Split Flow - Separates primary and secondary pump flows. One valve bank operates like two.

Part Number	Replacement for	Top Port	Rear port
VG35-SFA40	348-9174-001	1"NPT	none
VG35-SFA80	348-9174-002	SAE-16	none

Main Relief Valves (MRV) Inlet - Mid-inlets
differential type, screw adjustable

Part Number	Replacement for	Description
VG35-MRV1	391-1873-003	1500PSI@50GPM 800~2000PSI screw adjustable
VG35-MRV2	391-1873-004	2500PSI@50GPM 2000~2500PSI screw adjustable
VG35-HMRV	391-1873-137	3000PSI@50GPM 2500~3500PSI screw adjustable
VG35-MRVP	391-1873-005	Main relief valve plug with seal washer

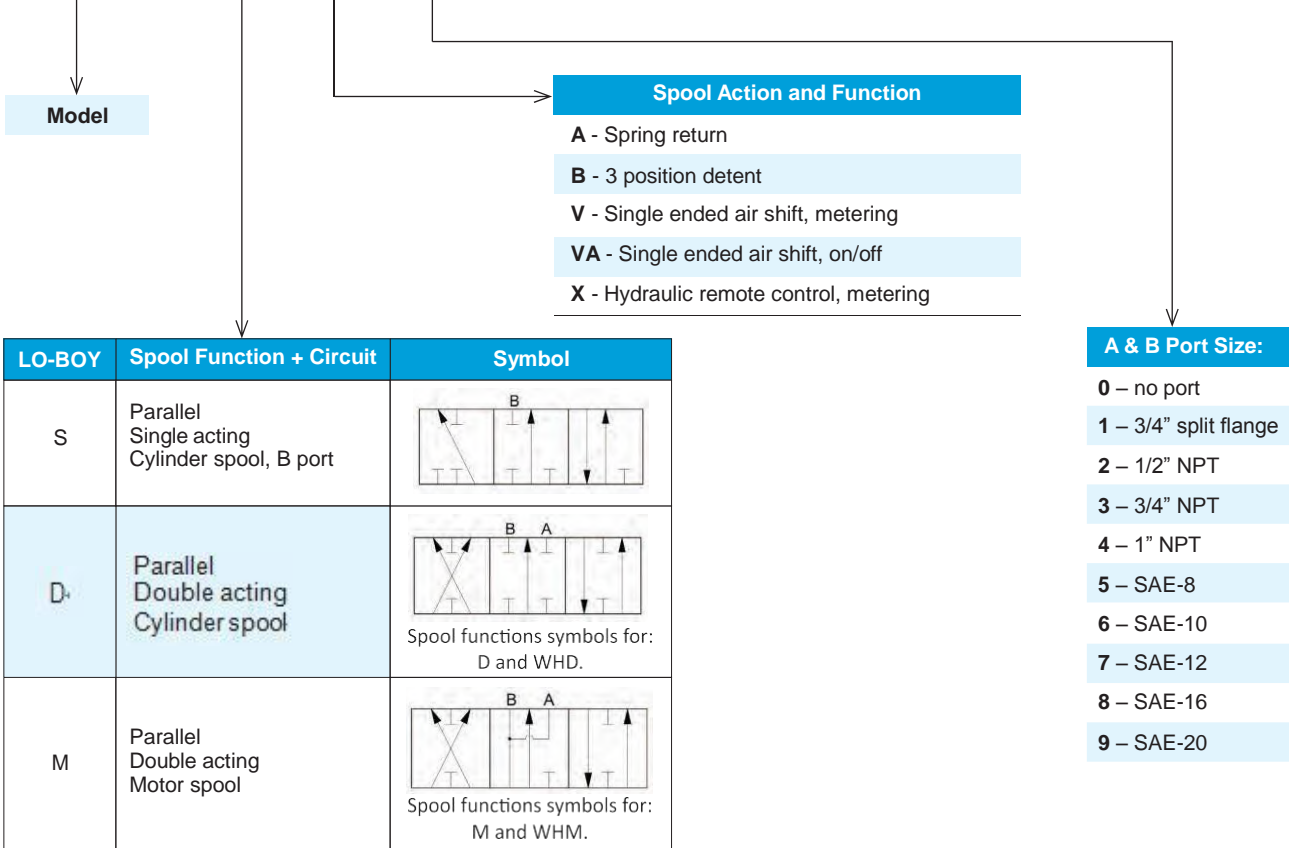
MRV and MRVP torque 75 ft. lbs. (900 in. lbs.)



VG35

Low-boy Work Section Coding Table

VG35 - D A 7



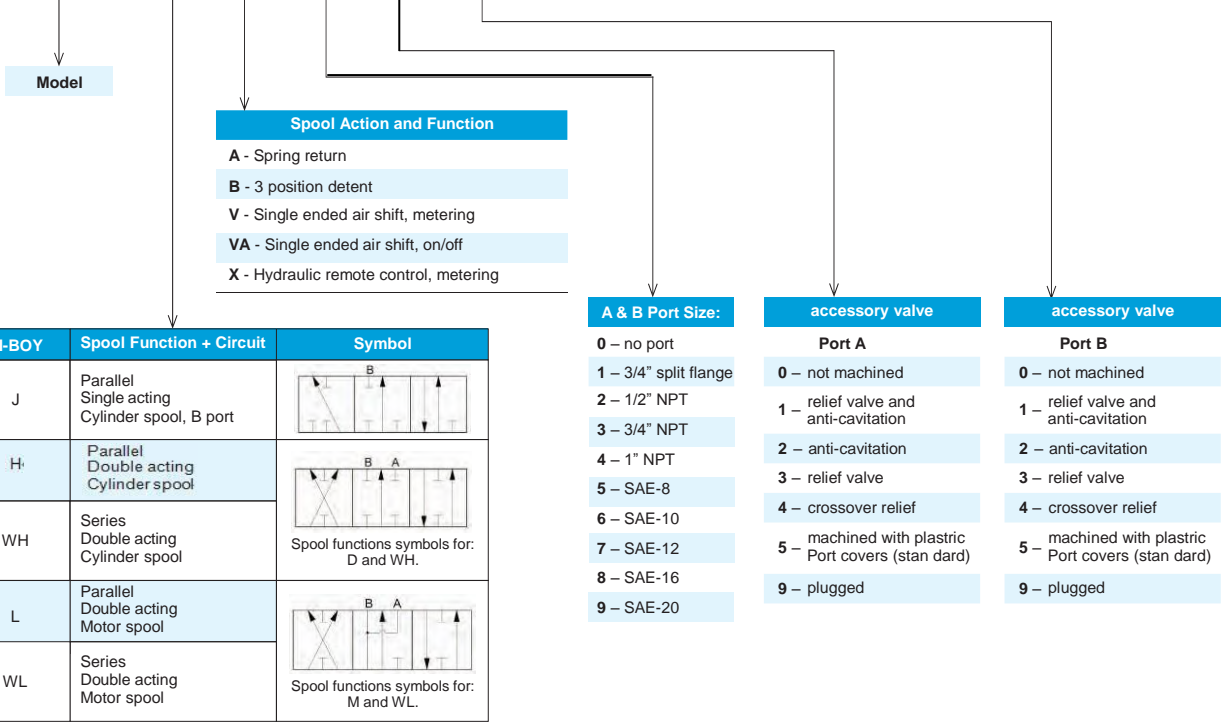
WORK SECTION

GENERAL NO.	REPLACEMENT FOR	DESCRIPTION
VG35-DA4	348-9172-002	Double action, cyl, spring return, 1" NPT ports
VG35-DA8	348-9172-003	Double action, cyl, spring return, SAE-16 ports
VG35-DB4	348-9172-022	Double action, cyl, 3 pos detent, SAE-16 ports
VG35-DB8	348-9172-023	Double action, cyl, 3 pos detent, SAE-16 ports
VG35-SA4	348-9172-022	Single action, cyl, spring return, 1" NPT ports
VG35-SA8	348-9172-003	Single action, cyl, spring return, SAE-16 ports
VG35-MA4	348-9172-005	Double action, float, spring return, 3/4" NPT ports
VG35-MA8	348-9172-006	Double action, float, spring return, SAE-16 ports
VG35-MB4	348-9172-081	Double action, float, 3 pos detent, 1" NPT ports
VG35-MB8	348-9172-082	Double action, float, 3 pos detent, SAE-16 ports
VG35-DV4	348-9172-029	Double action, cyl, airshift, spring return, 1" NPT ports
VG35-DV8	348-9172-030	Double action, cyl, airshift, spring return, SAE-16 ports
VG35-MV4	N/A	Double action, float, airshift, spring return, 1" NPT ports
VG35-MV8	348-9172-651	Double action, float, airshift, spring return, SAE-16 ports
VG35-SV8	348-9171-016	SINGLE action, cyl, airshift, spring return, SAE-16 ports
VG35-DX4	348-9172-039	Double action, cyl, metered hydra control, spring return, 1" NPT ports
VG35-DX8	348-9172-040	Double action, cyl, metered hydra control, spring return, SAE-16 ports
VG35-MX4	348-9172-058	Double action, float, metered hydra control, spring return, 1" NPT ports
VG35-MX8	348-9172-059	Double action, float, metered hydra control, spring return, SAE-16 ports

VG35

Hi-boy Work Section Coding Table

VG35 - D A 0 5 5

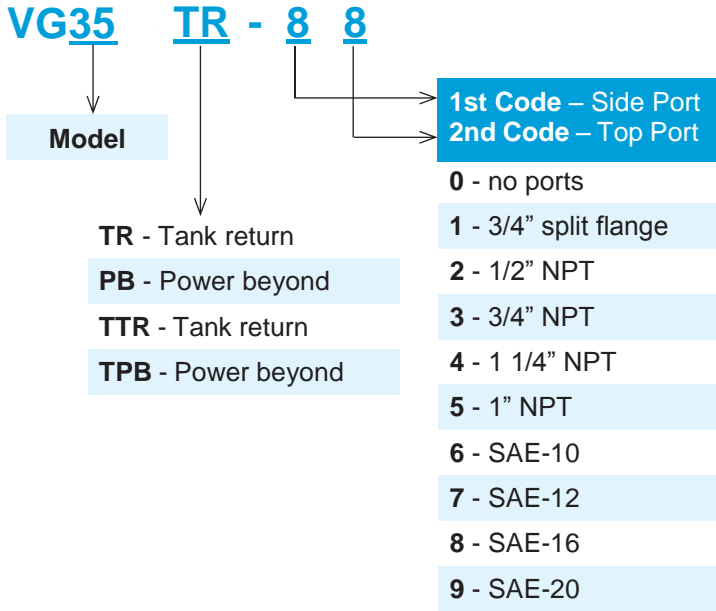


HI-BOY WORK SECTION

GENERAL NO.	REPLACEMENT FOR	DESCRIPTION
VG35-HA009		Hi-BOY, Double action, cyl, spring return, no ported
VG35-HA399	348-9172-008	Hi-BOY, Double action, cyl, spring return, 1" NPT ports
VG35-HA799	348-9172-009	Hi-BOY, Double action, cyl, spring return, SAE-16 ports
VG35-HB399	348-9172-013	Hi-BOY, Double action, cyl, 3 pos detent, 1" NPT ports
VG35-HB799	348-9172-014	Hi-BOY, Double action, cyl, 3 pos detent, SAE-16 ports
VG35-JA009		Hi-BOY, Single action, cyl, spring return, no ported
VG35-JA309	348-9171-005	Hi-BOY, Single action, cyl, spring return, 1" NPT B ports
VG35-JA709	348-9171-006	Hi-BOY, Single action, cyl, spring return, SAE-16 B ports
VG35-LA399	348-9172-011	Double action, float, spring return, 3/4" NPT ports
VG35-LA799	348-9172-012	Double action, float, spring return, SAE-16 ports
VG35-LB399	348-9172-062	Double action, float, 3 pos detent, 1" NPT ports
VG35-LB799	348-9172-063	Double action, float, 3 pos detent, SAE-16 ports
VG35-HV399	348-9172-020	Double action, cyl, airshift, spring return, 1" NPT ports
VG35-HV799	348-9172-021	Double action, cyl, airshift, spring return, SAE-16 ports
VG35-HX799	348-9172-038	Double action, cyl, metered hydra control, spring return, SAE-16 ports
VG35-LX399	348-9172-072	Double action, float, metered hydra control, spring return, 1" NPT ports
VG35-LX799	348-9172-068	Double action, float, metered hydra control, spring return, SAE-16 ports

VG35

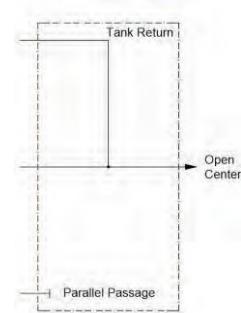
Outlet - Coding Table



Tank Return

Part Number	Replacement for	Side Port	Top Port
VG35-TR55	348-9176-001	1 1/4"NPT	1 1/4"NPT
*VG35-TR99	348-9176-002	SAE-20	SAE-20
*VG35-TTR99	348-9176-007	SAE-20	SAE-20

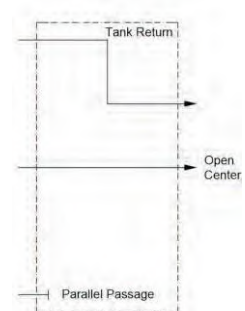
Note: * For 3500psi application



Power Beyond

Part Number	Replacement for	Side Port LP	Side Port HP	Top Port LP	Top Port HP
VG35-PB09	348-9176-005	no port	no port	SAE-20	SAE-20
VG35-PB55	348-9176-003	1-1/4"NPT	1-1/4"NPT	1-1/4"NPT	1-1/4"NPT
VG35-PB90	348-9176-004	SAE-20	SAE-20	no port	no port
VG35-PB99	348-9176-012	SAE-20	SAE-20	SAE-20	SAE-20
*VG35-TPB99	348-9176-008	SAE-20	SAE-20	SAE-20	SAE-20

Note: * For 3500psi application



VG35

Stud Kits



Part Number	Replacement for
VG35-SK-1	391-1873-053
VG35-SK-2	391-1873-054
VG35-SK-3	391-1873-055
VG35-SK-4	391-1873-056
VG35-SK-5	391-1873-057
VG35-SK-6	391-1873-058
VG35-SK-7	391-1873-059
VG35-SK-8	391-1873-060

SK studs - torque 42ft. lbs. (504in. lbs.) for 2500psi

Thru Hole Stud Kits



Part Number	Replacement for
VG35-TSK-1	391-1873-138
VG35-TSK-2	391-1873-139
VG35-TSK-3	391-1873-140
VG35-TSK-4	391-1873-141
VG35-TSK-5	391-1873-142
VG35-TSK-6	391-1873-143
VG35-TSK-7	391-1873-144
VG35-TSK-8	391-1873-145

TSK studs - torque 75ft.lbs. (900in. lbs.) for 3500psi use thru hole outlets

Work Section Spool Actuator Kits

Part Number	Replacement for	Function
VG35-K-200	391-1873-026	Spring return
VG35-K-201	391-1873-027	3 position detent
VG35-K-209	391-1873-170	Metering hyd remote control
VG35-K-213	391-1873-203	Metering air shift
VG35-K-213A		Airshift on/off



Work Section

VG35

Spools

Part Number	Replacement for	Description
VG35-SPL-11	391-1873-068	4 way/3 position, hold in neutral
VG35-SPL-13	391-1873-072	4 way/3 position, float in neutral
VG35-SPL-15	391-1873-076	3 way/3 position, hold in neutral

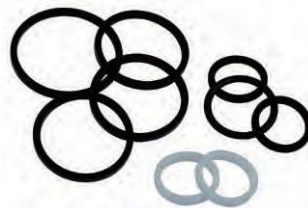


Seal Kits

Part Number	Replacement for	Kit	Kit Contains
VG35-K-11	391-1873-040	Work section assembly kit	4 section seals
VG35-K-12	391-1873-041	Work section repair kit	7 seals & 2 spool support rings



K-11



K-12

Handle Assembly

- includes linkage kit.

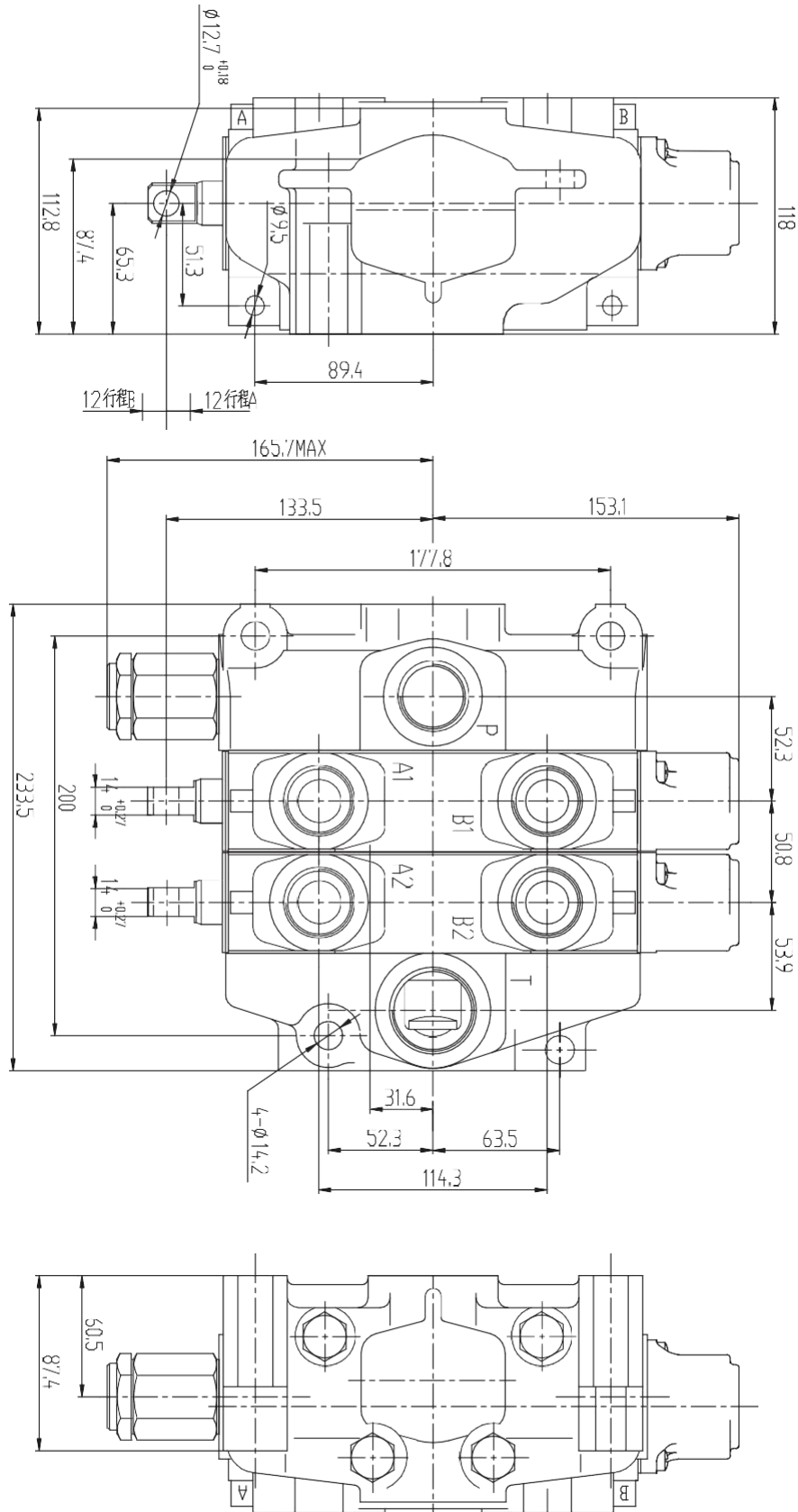
H style handles are for Hi-Boy sections with port relief valve on the handle side.

Part Number	Replacement for	Description
VG35-H-4	391-1873-097	Handle 8"
VG35-H-6	391-1873-064	Handle 6" H style for Hi-BOY
VG35-H-8	391-1873-065	Handle 8" H style for Hi-BOY
VG35-H-10	391-1873-066	Handle 10" H style for Hi-BOY



VG35

Dimensional Data



Valve Accessories

PART NUMBER	REPLACEMENT FOR	DESCRIPTION
VG20-PPRVS	355-9109-027	Daul-Pressure port relive valve, 2000PSI@1 GPM, 500-2500PSI Screw adjustable
VG-PRAVC	391-1873-006	Port relive valve with AC , 2500PSI@10GPM, 500-SOOO PSI Screw adjustable
VG-PRVS1	391-1873-344	Port relive valve , 1000PSI@10GPM, 500-1000PSI Screw adjustable
VG-PRVS2	391-1873-345	Port relive valve , 2000PSI@10GPM, 1000-2500PSI Screw adjustable
VG-PRVS3	391-1873-346	Port relive valve , 2500PSI@10GPM, 2500-4000PSI Screw adjustable
VG-AC	391-1873-010	AC, Anti-Cavitation Check Valve



Work Port Plugs

SAE Plugs - with O - rings

PART NUMBER	REPLACEMENT FOR	SIZE
VG-DPL-10	391-1873-015	Plug 5/8" O-ring
VG-DPL-12	391-1873-016	Plug 3/4" O-ring
VG-DPL-16	391-1873-017	Plug 1" O-ring
VG-DPL-20	391-1873-018	Plug 1 1/4" O-ring

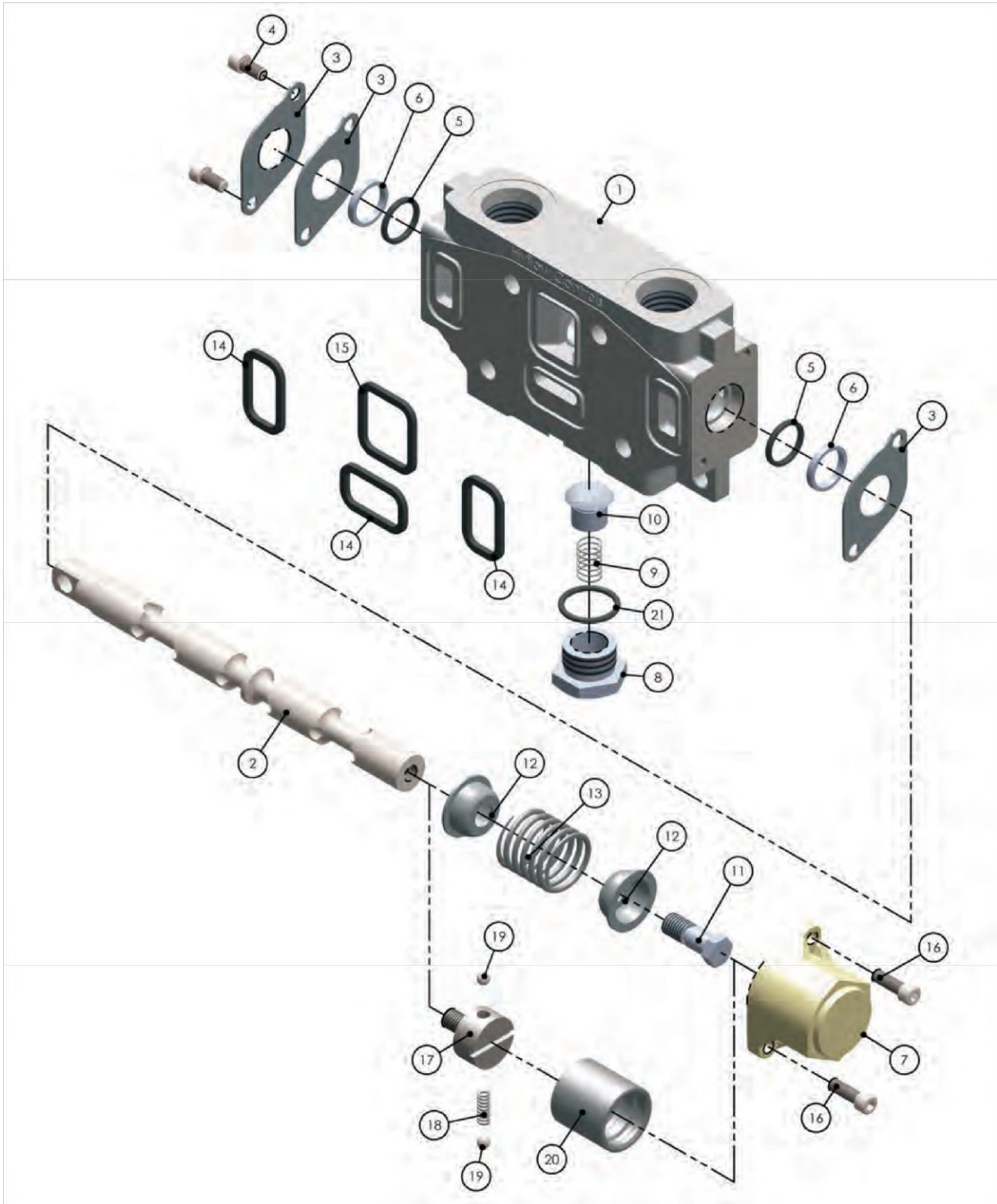
NPT Plugs

PART NUMBER	SIZE
VG-DPL-75	3/4" NPT
VG-DPL-100	1" NPT
VG-DPL-125	1 1/4" NPT
VG-DPL-50	1 1/2" NPT



VG20/35 Valves

Sectional Directional Control Valve Exploded View



VG20/35 Valves

Exploded View Parts List

Item	Part	Qty	VG20	VG35
1	Low-boy work section			
2	Spool			
3	Retainer plates	3	391-3183-001	391-3183-005
4	Retainer plate screws	2	391-2433-015	391-2433-002
5	Spool seal	2	391-2985-014	391-3887-212
6	Back up seal	2	391-3681-378	391-3681-426
7	Back cap	1	391-7000-100	391-6000-100
8	Check valve hex cap	1	391-1581-044	391-1581-044
9	Check valve spring	1	391-4581-713	391-4581-713
10	Check valve poppet	1	391-3481-069	391-3481-069
11	Stripper bolt	1	391-2432-022	391-2432-021
12	Spring guides	2	391-2642-045	391-2642-013
13	Centering spring	1	391-4581-608	391-4581-633
14	Section seals - (3 pcs)	3	391-3881-206	391-3881-200
15	Section seal - (1 pc)	1	391-3881-200	391-3881-403
16	Back cap screws	2	391-2433-020	391-2433-009
17	Detent poppet retainer	1	391-3583-008	391-3583-006
18	Detent spring	1	391-4581-130	391-4581-015
19	Detent balls	2	391-1282-010	391-1282-009
20	Detent sleeve	1	391-4283-015	391-4283-008
21	Check valve o-ring	1	391-3881-204	391-3881-204



V20

Open Center Parallel Components

Operational Pressure: 3500PSI Maximum

Filtration: Minimum 33 Micron

Flow Rate: 25GPM Nominal

Refer to pressure drop charts. Flow rate is determined by the max pressure drop acceptable for the application.

Minimal spool actuating effort ----Max 50Lbs

Weight Approximant

Inlet---7lbs; Outlet---4Lbs; Work section-- 10lbs



Maximum exhaust core pressure:

With handle bracket or heavy duty spool seal retainer installed

Continuous operating----- 500PSI

Intermittent Peak----- 1000PSI

With standard spool seal retainer installed

Contagious operating----- 200PSI

V20 Inlet Covers (Housing # 9398 & 8736)

Item#	Model#	Part#	End Inlet	End Outlet	Top Inlet	Top Outlet
1	V-20-LC-75	H08650029	3/4" NPT	3/4" NPT	3/4" NPT	3/4" NPT
2	V-20-LC-12	H08650029	SAE12	SAE12	SAE12	SAE12

Two ports plugs are finished loose with each cover, one is machined for 1/4" NPT or SAE 4 gauge ports

V20 Outlet Covers & Option Kits for Open Center (Housing 7770 and 8644)

Item#	Model#	Part#	Description
1	V-20-RC-10-E	23650145	SAE 10 end out, 7770 housing
2	V-20-RC-12-E	23650146	SAE12 end outlet. 7770 housing
3	V-20-RC-75-E	23650147	3/4" end outlet, 7770 housing
4	V-20-RC-12-E-MY	09650024	SAE12 end outlet. 7770 housing, machined for end power beyond
5	V-20-RC-75-E-MY	09650027	3/4" NPT end outlet. 7770 housing, machined for end power
6	V-20-RC-12-ET-12-MY	09650022	SAE12 ports,8644 housing top outlet, machined for top power beyond
7	V-20-RC-75-ET-75-MY	09650023	3/4" NPT ports,8644 housing top outlet, machined for top power beyond
8	K-20-C	09650099	Closed center Plug
9	K-20-X	09650100	Conversion Plug
10	K-20-50-Y	09650101	1/2" power beyond sleeve
11	K-20-08-Y	09650102	SAE8 power beyond sleeve
12	K-20-10-Y	09650103	SAE 10 power beyond sleeve
13	K-20-12-Y	09650104	SAE 12 power beyond sleeve

Outlet includes assembly seal kit.

Note: Please contact us if you have any question about assembly instruction and specification.

V20

V20 Mid-Inlet Sections (Housing No. 7825)

Item#	Model#	Part#	Description	Note
1	V-20-75-SF	09650002	Split Flow, 3/4" NPT Inlet ports	coming soon
2	V-20-75-CF	09650001	Combined Flow, 3/4" NPT Inlet ports	coming soon
3	V-20-12-SF	09650004	Split Flow, SAE12 Inlet ports	coming soon
4	V-20-12-CF	09650003	Combined Flow, SAE12 Inlet ports	coming soon

Housing 7825 is rated to 3500PSI. Item 5 and Item 6 are special order available

V20 Work Sections (Housing 9072)

Item#	Model#	Part#	Description
1	V-20-50-03	09650017	3way/3position 1/2" NPT ports, Spring return to neutral, A/B blocked @ neutral
2	V-20-08-03	23650149	3way/3position SAE8Tports, Spring return to neutral, A/B blocked @ neutral
3	V-20-10-03	09650016	3way/3position SAE10 ports. Spring return to neutral, A/B blocked @ neutral
4	V-20-50-04	09650021	3way/3position 1/2" NPT ports, Spring return to neutral, A/B blocked @ neutral
5	V-20-08-04	23650148	4way/3position SAE8T ports, Spring return to neutral, A/B blocked @ neutral
6	V-20-10-04	09650020	4way/3position SAE 10 ports, Spring return to neutral, A/B blocked @ neutral
7	V-20-50-F4	09650019	4way/3position 1/2" NPT ports, Spring return to neutral, A/B free flow @ neutral
8	V-20-08-F4	23650051	4way/3position SAE8Tports, Spring return to neutral, A/B free flow @ neutral
9	V-20-1 O-F4	09650018	4way/3position SAE10 ports, Spring return to neutral, A/B free flow @ neutral
10	V-20-50-DF4	09650017	4way/3position 1/2" NPT ports, 3 positions detent, A/B free flow @ neutral
11	V-20-08-DF4	23650838	4way/3position SAE8 ports, 3 positions detent, A/B free flow @ neutral
12	V-20-1 O-DF4	09650009	4way/3position SAE10 ports, 3 positions detent, A/B free flow @ neutral
13	V-20-10-03-PA 1	23650963	3way/3position SAE 10 ports, Pneumatic remote, A/B blocked @ neutral
14	V-20-10-04-PA 1	23650964	4way/3position SAE 10 ports, Pneumatic remote, A/B blocked @ neutral
15	V-20-10-03-PA-ON/OFF		3way/3position SAE 10 ports, Pneumatic ON/OFF remote, A/B blocked @ neutral
16	V-20-10-04-PA-ON/OFF		4way/3position SAE10 ports, Pneumatic ON/OFF remote, A/B blocked @ neutral

Work section includes assembly seal kit.

Standard work section is finished Handle Bracket Only (HBO).

If valve work section is specified to be furnished LCHA (Less Complete Handle Assembly), the complete handle and bracket assembly will be omitted. When this is done, a spool seal retainer assembly is installed. Standard retainer assembly is limited to back pressure 200PSI. Heavy duty spool seal retainer must be installed if back pressure exceeds 200PSI but not over 1000PSI. Heavy duty seal retainer will be used for spool wiper installation.

Work Port Options for use in V20P, Parker V20P, V20T V20C and V20LS

Item#	Model#	Part#	Pressure Range and setting
1	RC-500	23650156	Relief valve, 0500~1249 set@500PSI c/p, differential poppet
2	RC-1200	09850394	Relief valve, 0500-1249 set@1200PSI c/p, differential poppet
3	RC-1700	09850395	Relief valve, 1250~1749 set@1700PSI c/p, differential poppet
4	RC-1950	09850396	Relief valve, 1750-1999 set@1950PSI c/p, differential poppet
5	RC-2550	09650397	Relief valve, 2000~2599 set@2550PSI c/p, differential poppe
6	RP20A-2500	09660975	Relief valve, 500~3500 set @ 2500PSI c/p, pilot-operated, adjustable
7	CRA-1200	09650387	Combination Relief & Anti-Cav check, 0500~1249 set@1200PSI c/p, Adj
8	CRA-1700	09650388	Combination Relief & Anti-Cav check, 1250~1749 set@1700PSI c/p, Adj
9	CRA-1950	09650389	Combination Relief & Anti-Cav check, 1750-1999 set@1950PSI c/p, Adj
10	CRA-2550	09650390	Combination Relief & Anti-Cav check, 2000-2599 set@2550PSI c/p, Adj
11	K-20-AC	09650380	Anti-Cavitation Check assembly
12	K-20-CP	09650903	Load-check assembly
13	K-WH-A	09650381	External screw adjustment option for HWH, HRC, HCRA,
14	K-20-LO		Double pilot-operated check assembly, coming soon

V20

V20 Main Relief Options (All set at crack pressure of 1 G PM)

Item#	Model#	Part#	Description
1	WH-1200	09650417	500~1249 set @1200PSI c/p
2	WH-1700	09650418	1250~1749 set @1700PSI c/p
3	WH-1950	09650419	1750~1999 set @1950PSI c/p
4	WH-2550	09650420	2000~2599set @2550PSI c/p
5	RP51A-3000	09650421	500-3500 set @3000PSI c/p
6	K-20-NR	09650382	Relief Plug Kit (no relief option)
7	K-WH-A	09650381	External Screw adjustment option for WH relief

WH Relief valves are internal shim adjustment. HRPSIA relief are external screw adjustable

V20 Spool Positioner and Handle Options

Item#	Model#	Part#	Description	Note
1	K-20-D	09650105	3-position Detent Kit	
2	K-20-SR		Stand Spring return neutral kit	
3	K-20-3825	09653825	Pneumatic spool actuator kit, metering	
4	K-20-3625-on/off	09653625	Pneumatic spool actuator kit, ON/OFF	
5	K-20-VH-B	09650151	Vertical Handle(Black)	
6	K-20-VH-P	09650153	Vertical Handle(Plain)	
7	K-20-HH-B	09650154	Horizontal Handle(Black)	
8	K-20-HH-P	09650156	Horizontal Handle(Plain)	
9	K-20-HBO-CI	09650113	complete bracket less handle and links	
10	K-20-RET	09650107	Standard seal retainer plate	
11	K-20-RET-HD	09650108	Heavy duty seal retainer plate	coming soon
12	K-20-WIPERE	09650097	Spool wiper	coming soon
13	K-20-boot	09650112	spool boot assembly	coming soon
14	K-20-Bonnet		Standard spool action bonnet with 2 screws	

V20 Stand Section Stud Assembly and Seal kits

Item#	Model#	Part#	Description
1	K-20-1	09650087	one section stud assembly kit
2	K-20-2	09650088	one section stud assembly kit
3	K-20-3	09650089	one section stud assembly kit
4	K-20-4	09650090	one section stud assembly kit
5	K-20-5	09650091	one section stud assembly kit
6	K-20-6	09650092	one section stud assembly kit
7	K-20-7	09650093	one section stud assembly kit
8	K-20-8	09650094	one section stud assembly kit
9	K-20-9	09650095	one section stud assembly kit
10	HK-20-10	09650096	one section stud assembly kit
11	K-20-Seal-1	08340001	open center section seal kit, 4 pcs
12	K-20-Seal-2		closed center work sections, mid-inlets, utility sections, outlet covers, 4 pcs
13	K-20-Seal-3		Standard section repair seal kit. Includes assembly seal 4 pcs + 2 pcs spool seals + 2 pcs spool seal back up washers
14	K-20-Seal-4		Standard load check assembly seals, included 3 O-rings and 3 back up rings.

Stud kit doesn't include seals. Work section or outlet cover includes assembly seals
when use a 8644 right end cover add one section to assure proper stud length. Torque stud nut to 32ft.lbs



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