

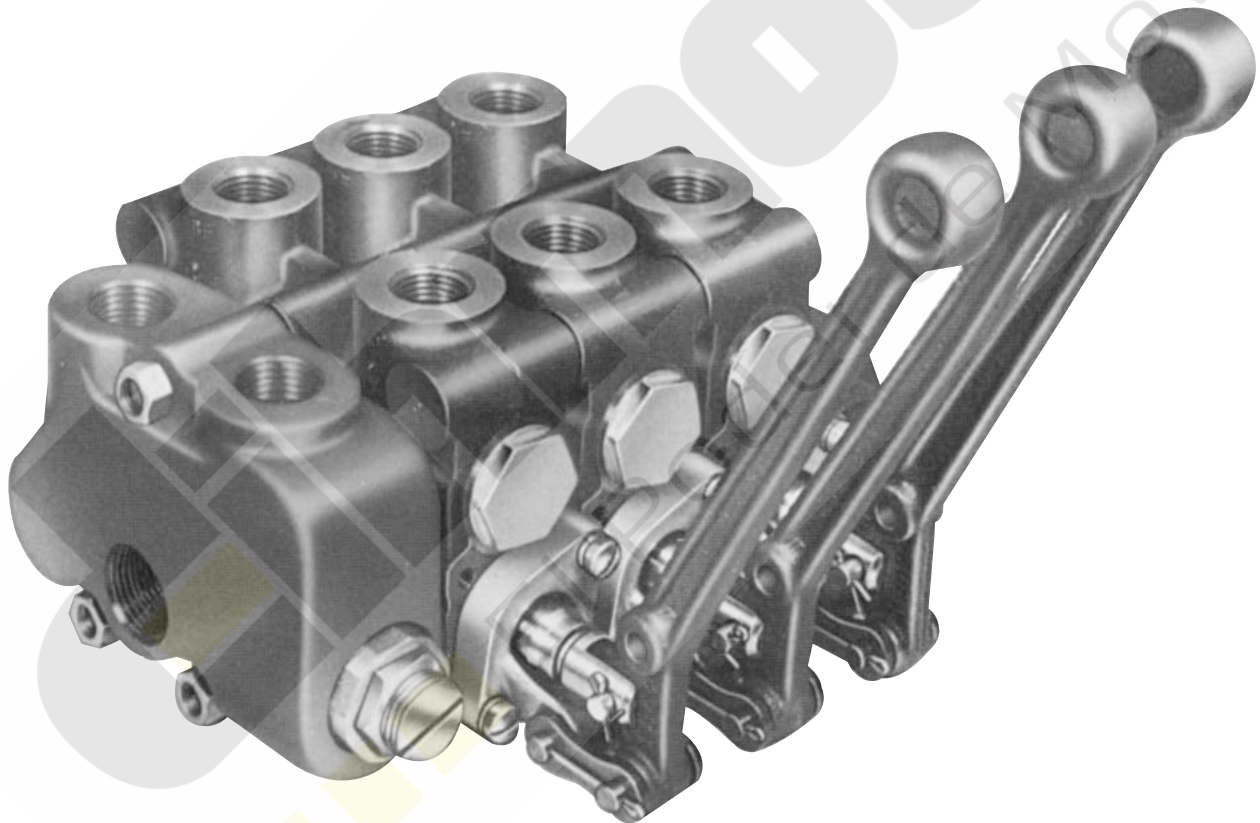


Bulletin HY14-2705-B1/US

# Series V20 Directional Control Valves

Effective: October 1, 2002  
Supersedes: Cat. No. GPD-1106 dated 1/91

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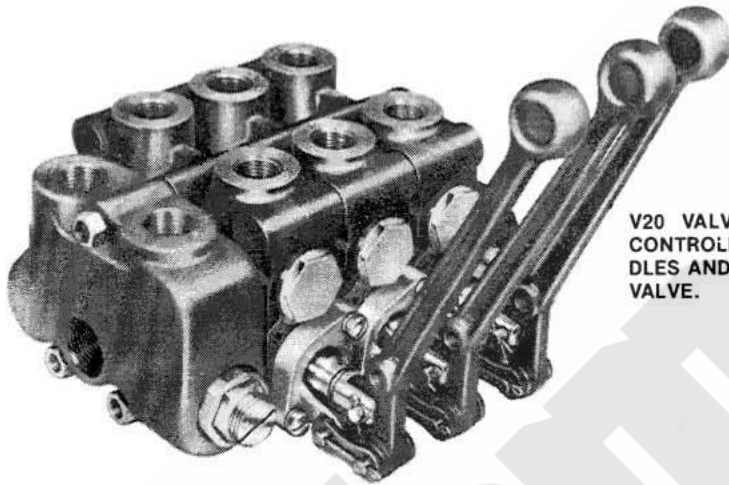
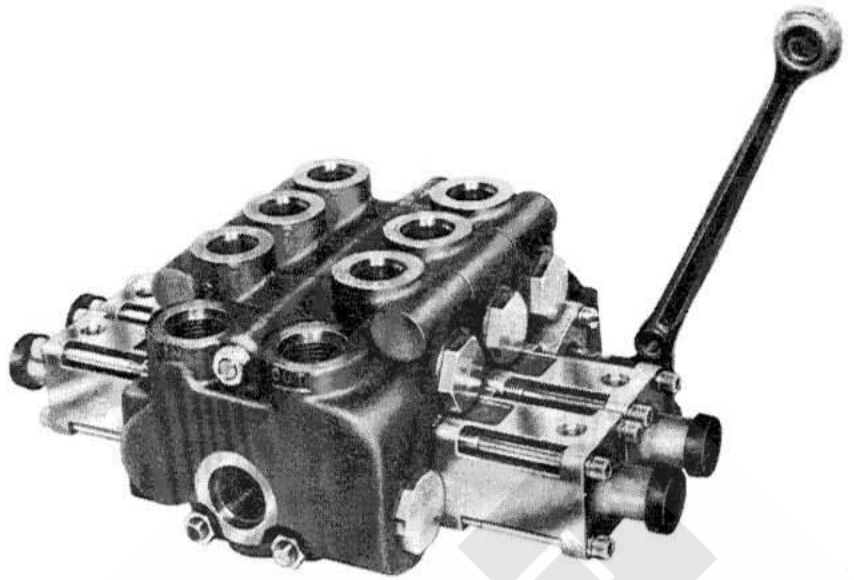
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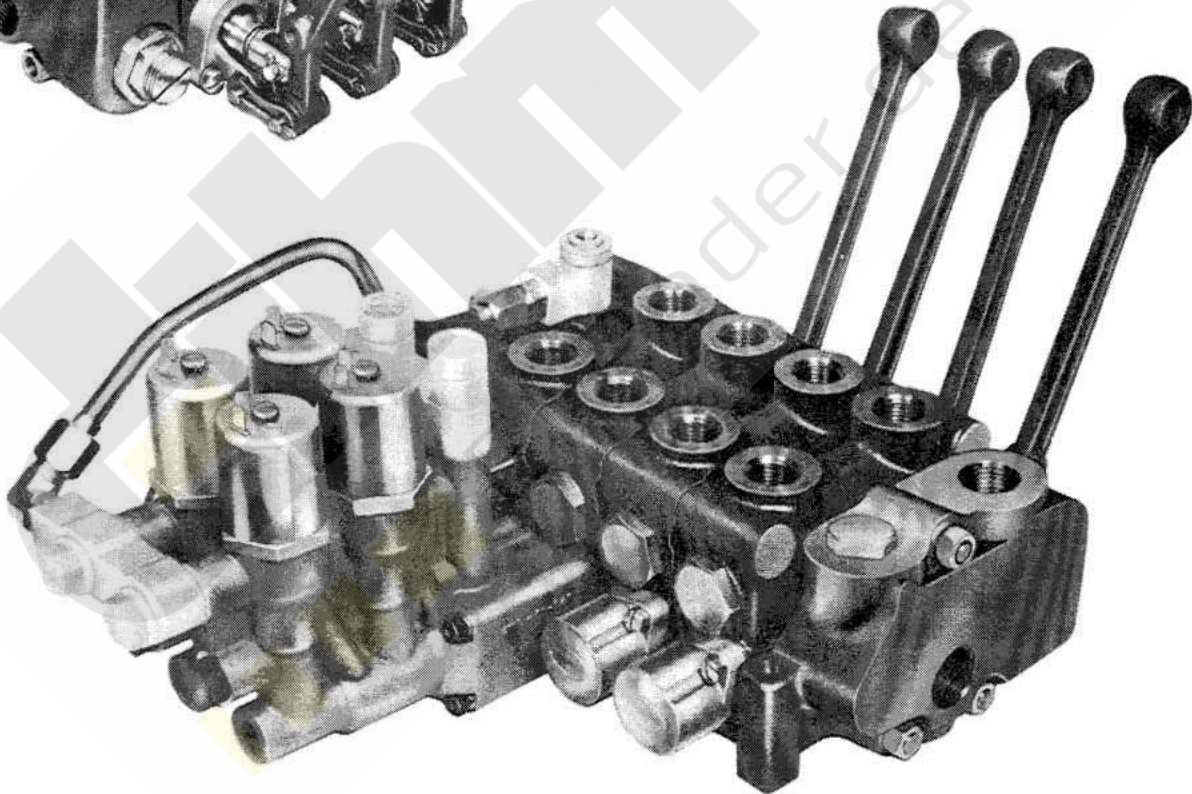
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V20 VALVE ASSEMBLY WITH TWO HYDRAULIC REMOTE SPOOL ACTUATORS AND ONE MANUALLY CONTROLLED SECTION.



V20 VALVE ASSEMBLY, MANUALLY CONTROLLED WITH VERTICAL HANDLES AND ADJUSTABLE MAIN RELIEF VALVE.



V20 VALVE ASSEMBLY WITH TWO SOLENOID CONTROLLED SECTIONS AND TWO MANUALLY CONTROLLED SECTIONS.

# INTRODUCTION

**Directional Control Valves** . . . start, stop and direct fluid flow. They control extension and retraction of cylinders, rotation of fluid motors and actuators, and sequence other circuit operations.

Parker offers two basic types of body designs . . . the Monoblock which has all component parts in one single casting . . . and the Sectional Body design.

**Sectional Body Valves** . . . consist of one or more complete work sections with end covers. The entire assembly is bolted together to form a complete Sectional Body Directional Control Valve. A variety of work sections, spools, and spool actions, end covers and relief combinations are available to provide the exact type of valve assembly required for any given application whether mobile, industrial or agricultural.

Parker's Model V20 Directional Control Valve is available for parallel, tandem, combined parallel/tandem and series hydraulic circuit applications, up to 3500 PSI [242 bar] continuous operating pressure. Its new spool design has resulted in lighter spool actuating effort making its finger-tip touch and extra-fine metering characteristics ideal for back hoe, front end loader and personnel lift applications. This sensitivity also gives the design engineer a wider latitude of mechanical linkage possibilities.

Service or conversion is simple since individual sections can be added, removed or replaced in the field. Individual service or field conversion sections, rather than complete valve assemblies, can be stocked thus reducing inventories.

## FEATURES

**Exact Work Port Control** . . . is achieved with smooth, positive metering valve spools. Spools are precisely hone-fitted to a matching work section for excellent spool-hold characteristics giving minimum load "leak down."

**Built-In Safety** . . . Hydraulic system and equipment protection incorporated at each work port eliminates need for any additional external plumbing. Main relief valves, work port relief valves, anti-cavitation checks and work port restrictors are available for safety, equipment protection and positive control.

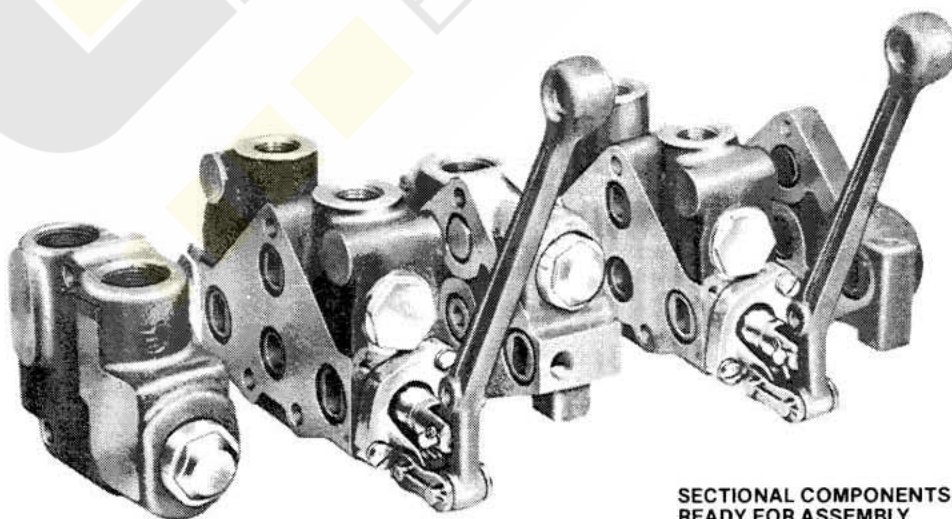
**Construction** . . . All valve housings are made of ductile cast iron for durability and resistance to shock loads.

Spools are hard, chrome-plated for long life and resistance to corrosion. All spools are select hone-fitted for minimum internal leakage and maximum load-holding ability.

**Seal Compatibility** . . . All standard Gresen products utilize BUNA-N seals which are compatible with petroleum base, water-in-oil emulsions, and water-glycol fluids. Phosphate ester type fire-resistant fluids will cause BUNA-N seals to swell. This swelling is not normally detrimental to static seals, but will be a problem for dynamic seals such as valve spool seals. Swelling of these seals can result in binding spools. The temperature range of BUNA-N seals is  $-40^{\circ}\text{F}$  [ $-40^{\circ}\text{C}$ ] to  $+200^{\circ}\text{F}$  [ $+93^{\circ}\text{C}$ ] for continuous operation.

VITON seals are recommended for most applications that use phosphate-ester type fluids. VITON seals are also recommended for applications that have a continuous operating temperature of  $+200^{\circ}\text{F}$  [ $+93^{\circ}\text{C}$ ] or more. VITON seals are available for Model V20 valves.

Due to the large number of hydraulic oil manufacturers, and the increasing availability of oil under various brand names, we recommend the customer consult his fluid manufacturer regarding compatibility . . . or test to his own satisfaction.



SECTIONAL COMPONENTS OF A MODEL V20 VALVE  
READY FOR ASSEMBLY.