

**HISTORY OF REVISIONS***Table of Revisions*

Date	Page	Changed	Rev.
May 2007	-	First edition	AA

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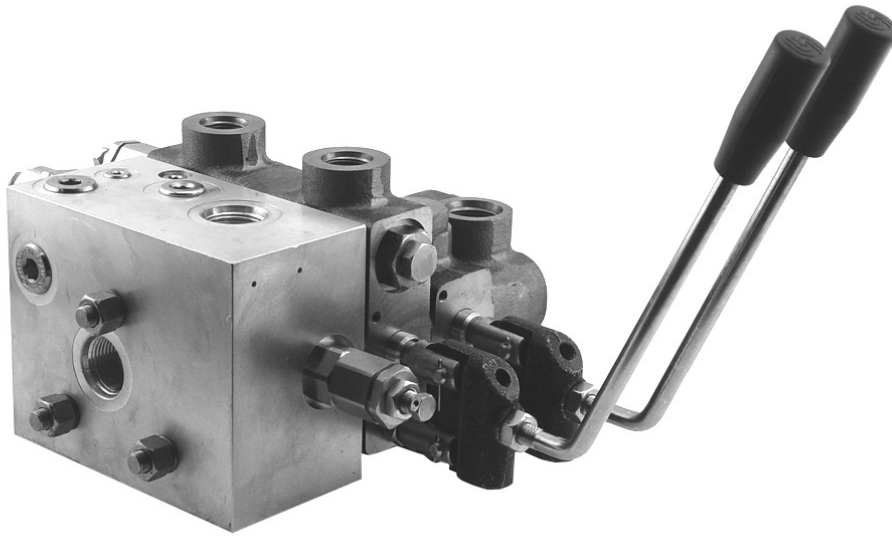
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**OVERVIEW**

The Sauer-Danfoss directional control valves are designed to give customer flexibility over a broad range of flow and pressure capabilities. Actuator options include a range of levers, cable actuators, hydraulic and pneumatic pilot controls, two-axis joysticks, and electrohydraulic solenoids. Flow rates range from 0 to 100 l/min [26 US gal/min]. Configurations include compact mono-block and flexible modular styles..

The Compression Control Hybrid Valve is designed to improve the operation of rear loader garbage trucks. It increases the packing ratio, adds more payload capacity and moves the load to provide better weight distribution.

**COMPRESSION CONTROL  
HYBRID VALVE****TYPICAL APPLICATIONS**

- Rear loader garbage trucks

**STANDARD FEATURES**

- PO check valve that provides flow and pressure to open the telescopic cylinder when the tailgate is closed
- Pressure compensator valve to avoid the garbage spring effect during the packing stroke of the telescopic cylinder
- Flexible HIC designs to adapt to vehicle architecture
- Higher capacity with constant refuse density

For more information regarding spool types, actuation options, cabling and electrical options, spool centering and detent options and auxiliary valves, refer to Sauer-Danfoss publication *Directional Control Valves Technical Information*, **520L0564**.

## FLUIDS

Hydraulic fluid performs three basic functions in a hydraulic system: It transfers energy, lubricates moving components, and transports heat and contaminants out of the system.

### Base stock and additives

Sauer-Danfoss valves are designed to operate with mineral-based fluids containing oxidation, rust, and foam inhibitors, compatible with fluoroelastomer seals. Consult your fluid supplier for information on seal compatibility.

### Viscosity

Viscosity is the most important property of a hydraulic fluid. It is a measurement of how the fluid resists flow. Low viscosity fluids increase internal leakage; high viscosity fluids increase pressure drop through the valve. Use a fluid that meets the viscosity limits published in this catalog. For specific requirements, see technical data in each section.

### Temperature

Temperature affects a fluid's viscosity. Higher temperature fluid has lower viscosity. Operating at excessive temperatures may have other detrimental effects on your hydraulic fluid. Design your hydraulic system to operate within the specified temperature range. Specific requirements are published in each section.

### For more information

For more information on hydraulic fluid selection refer to Sauer-Danfoss publication *Hydraulic Fluids and Lubricants Technical Information*, **520L0463**.

## FILTRATION

Effective filtration is critical to a hydraulic system's performance and working life. Employ system filtration capable of meeting the published requirements in each valve section. Be aware that other components in the system may have more stringent requirements. Design your filtration system to satisfy the requirements of the most sensitive component.

### Return line filtration

Return line filtration is generally adequate for Sauer-Danfoss valves. We recommend a 10 micron nominal (20 micron absolute) or finer filter. Insure the filter in your system is properly sized and maintained. To facilitate proper filter maintenance, use a pressure gauge or other indicator to signal when it is necessary to change the filter. Never allow filter to reach its bypass condition. Follow the filter manufacturer's maintenance recommendations.

### Cleanliness

Hydraulic system contamination must not exceed the limits published for each valve. Limits are specified per ISO 4406 (1999). When measuring system contamination, calibrate test equipment in accordance with the ACFTD method.

For more information

For more information on system filtration, refer to Sauer-Danfoss publication *Design Guidelines for hydraulic fluid cleanliness*, **520L0467**.

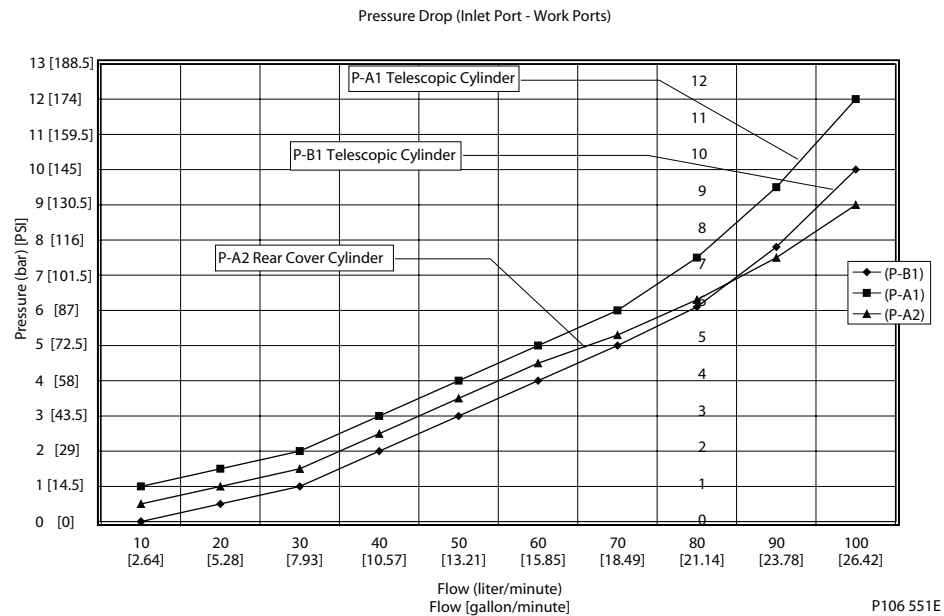
#### SPECIFICATIONS

<b>Maximum flow (CDS 100)</b>	100 l/min [26.4 US gal/min]
<b>Work pressure</b>	210 bar [3050 psi]
<b>Maximum pressure</b>	250 bar [3625 psi]
<b>Maximum pressure (outlet section)</b>	40 bar [580 psi]
<b>Temperature range</b>	-40° to 80° C [-40 to 176° F]
<b>Recommended fluid type</b>	Mineral based hydraulic oil
<b>Recommended viscosity</b>	26-55 mm <sup>2</sup> /sec (cSt) [123-255 SUS]
<b>Minimum fluid cleanliness (per ISO 4406)</b>	19/16

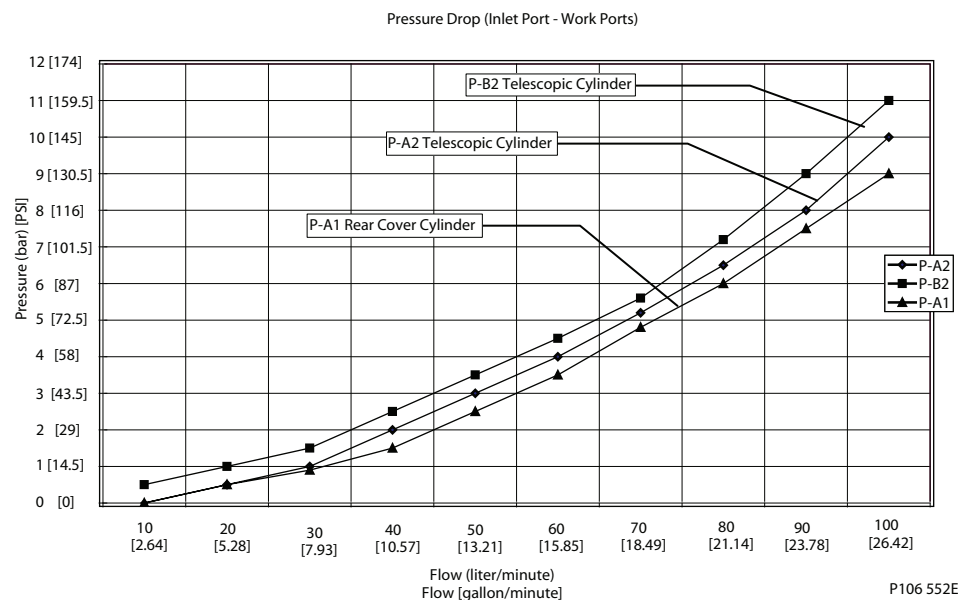
#### TYPICAL PERFORMANCE

Based on oil temperature of 45°–50°C [113°–122° F]. Viscosity 32 mm<sup>2</sup>/sec (cSt) [151 SUS]. CDS spool leakage (standard) at 70 bar [1015 psi], 50°C [122°F], ISO VG46: 10 cm<sup>3</sup>/min [0.61 in<sup>3</sup>/min]

#### Pressure drop (P-A1, P-B1, P-A2) HIC inlet



#### Pressure drop (P-B2, P-A2, P-A1) HIC outlet



**HIC INLET OR OUTLET**

*Ports*

- BSP (M10 mounting threads)*
- Metric (ISO 6149 and M10 mounting threads)*
- SAE ORB (3/8 English threads)*

*Main relief setting\**

*Unloader*

- 12 VDC
- 24 VDC

*PC/LS Unloader*

- 12 VDC
- 24 VDC

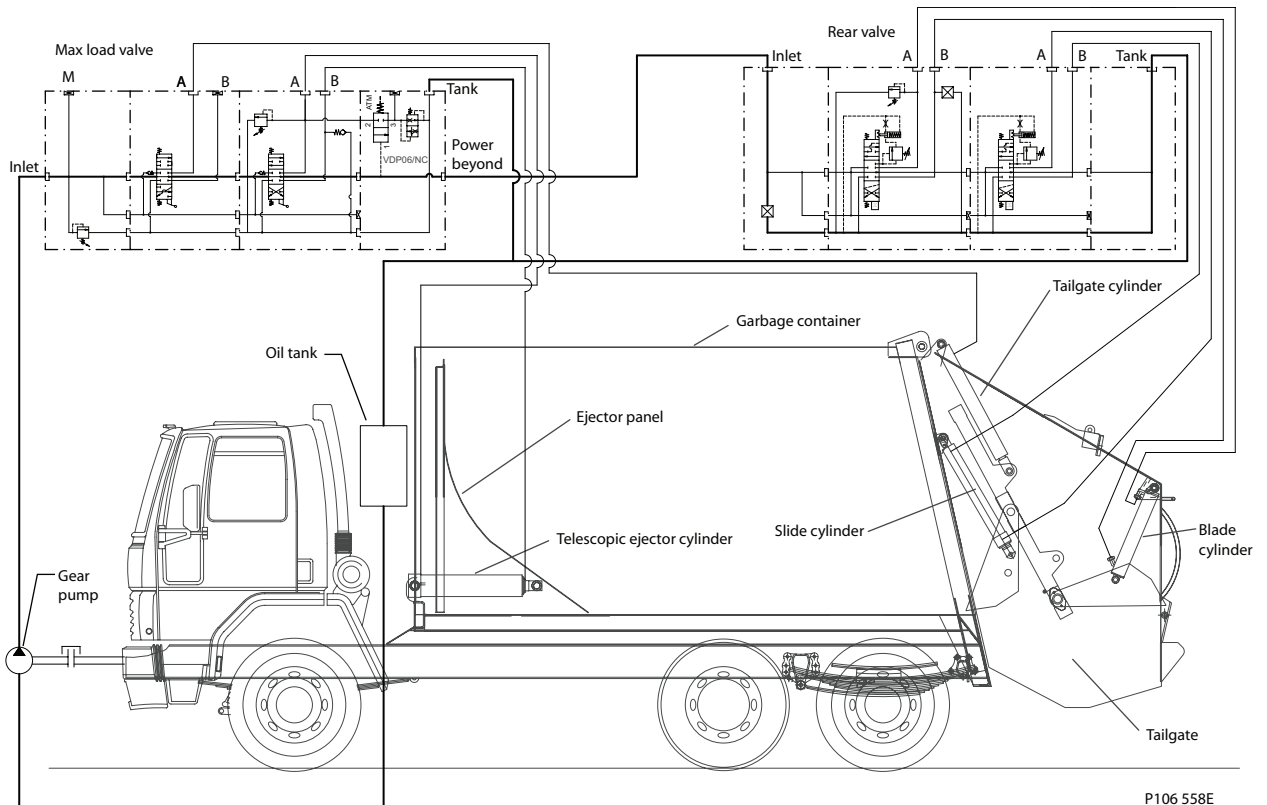
*External pilot (matches port type selected)*

*Sequence valve pressure*

ML 100		
PC/LS	Fixed Pump	ML only
X	X	X
X	X	X
X	X	X
	140/48	140/48
	X	
	X	
X		
X		
X	X	X
#	#	#

\* Default setting if not specified

**TRUCK SCHEMATIC**



P106 558E

**MAX LOAD TELESCOPIC SECTION**

Inlet covers order code (example)

M100 1 A \* \* A \* \* \*

*Max Load Telescopic Section*

*Parallel*

*4W/3P*

*Actuation*

Description
EH On/Off
Manual
Pneumatic
Etc.

*Actuation side*

Description
Handle, A side
Handle, B side
Etc.

*Spring center*

*Port threads, Type and Size*

Description
SAE
Metric (ISO 6149)
BSP

*A side auxiliary valves*

Description
Anti-cavitation
Relief plus anti-cavitation
Plug
Special safety check valve

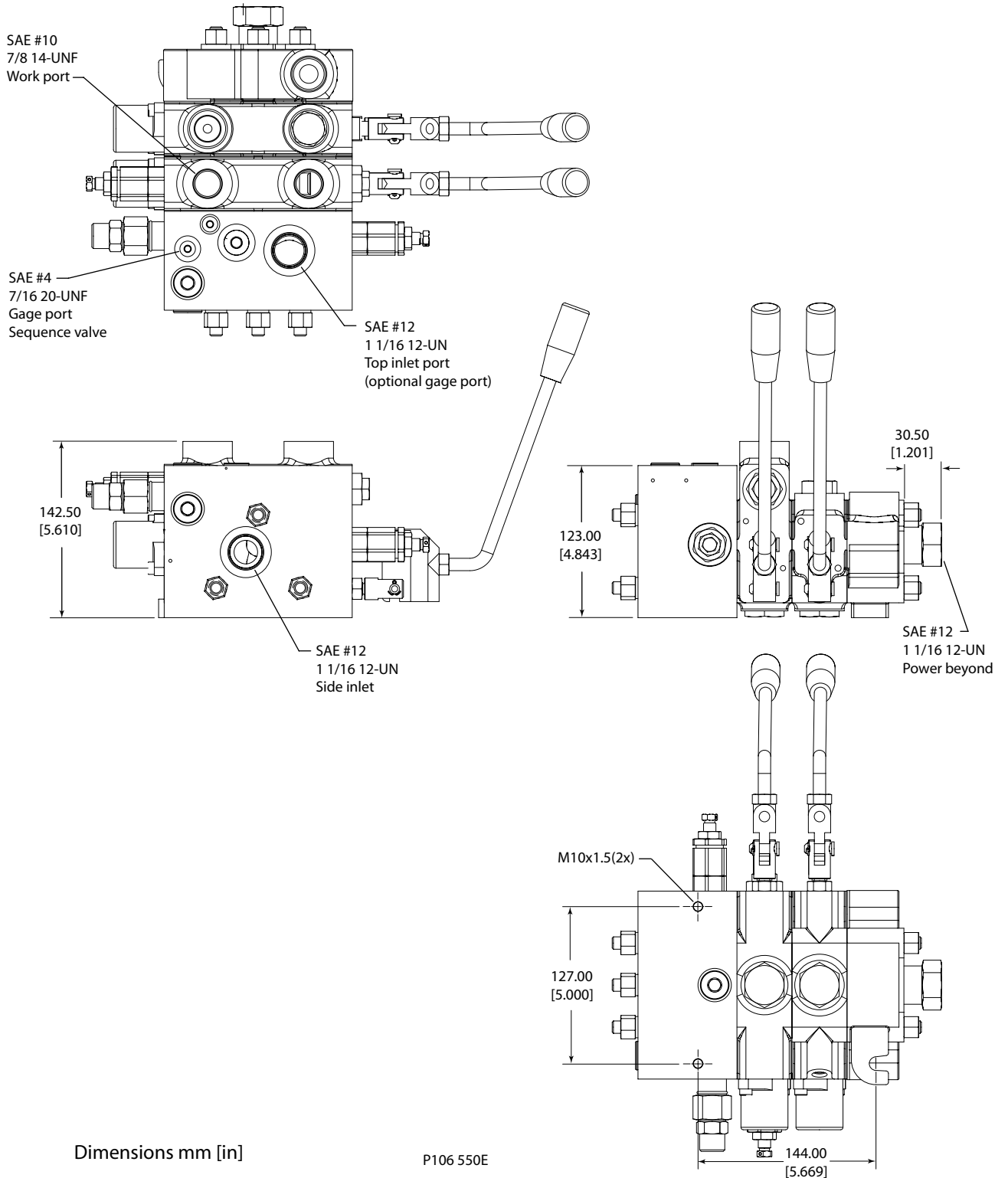
*B side auxiliary valves*

Description
Anti-cavitation
Relief plus anti-cavitation
Plug
Special safety check valve

For information regarding Work Section model codes, refer to pages 39-40 in Sauer-Danfoss publication *Directional Control Valves Technical Information*, **520L0564**.



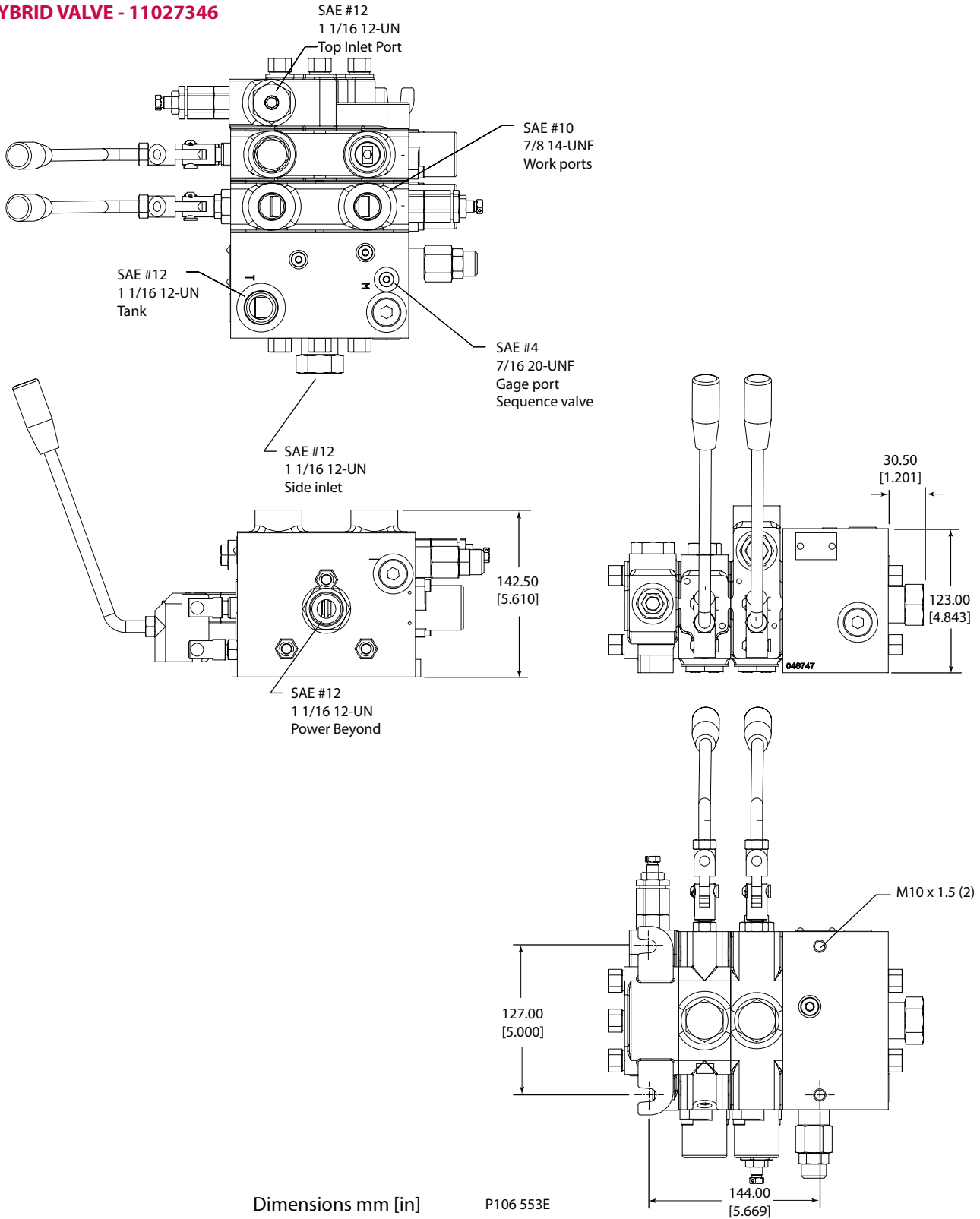
**DIMENSIONS INLET**  
**HYBRID VALVE - 11027345**



Dimensions mm [in]

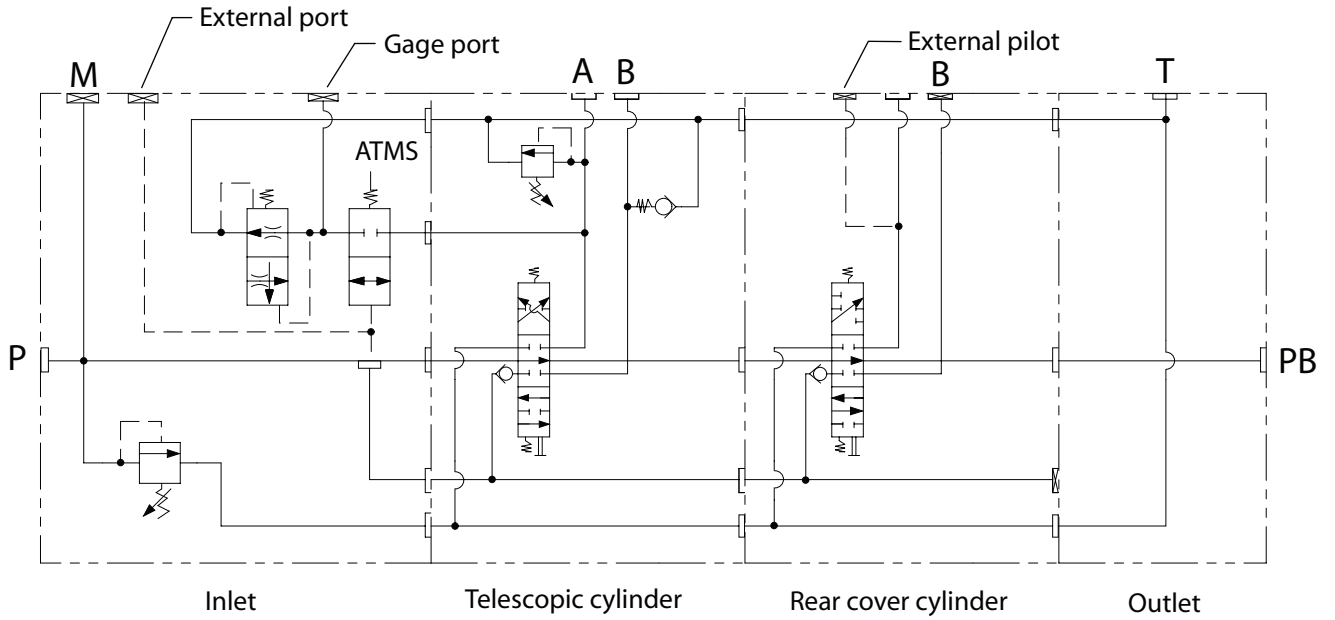
P106 550E

**DIMENSIONS OUTLET  
HYBRID VALVE - 11027346**



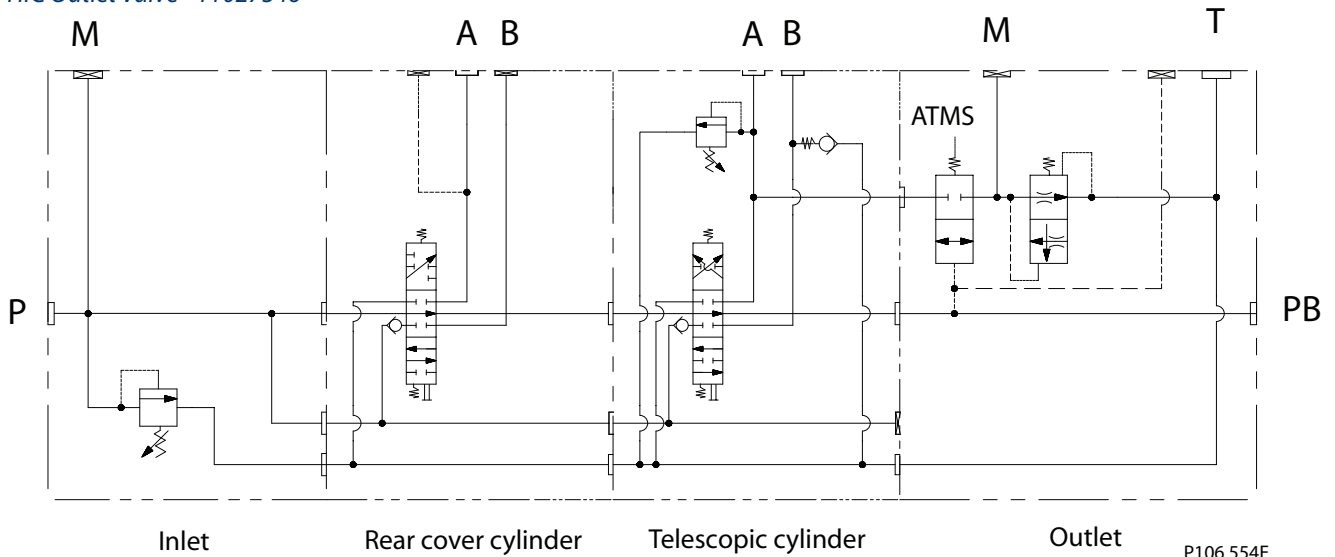
**COMPRESSION CONTROL  
HYBRID VALVE SCHEMATICS**

*HIC Inlet Valve - 11027345*



P106 549E

*HIC Outlet Valve - 11027346*



P106 554E



## OUR PRODUCTS

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Electric power steering  
Electrohydraulic power steering  
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Gear pumps and motors  
Bent axis motors  
Orbital motors  
Transit mixer drives  
Planetary compact gears  
Proportional valves  
Directional spool valves  
Cartridge valves  
Hydraulic integrated circuits  
Hydrostatic transaxles  
Integrated systems  
Fan drive systems  
Electrohydraulics  
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Electric motors and inverters  
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Sensors

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