

## Vented LoadMatch™ counterbalance valve

Capacity:  
30 gpm (120 L/min.)

Functional Group:

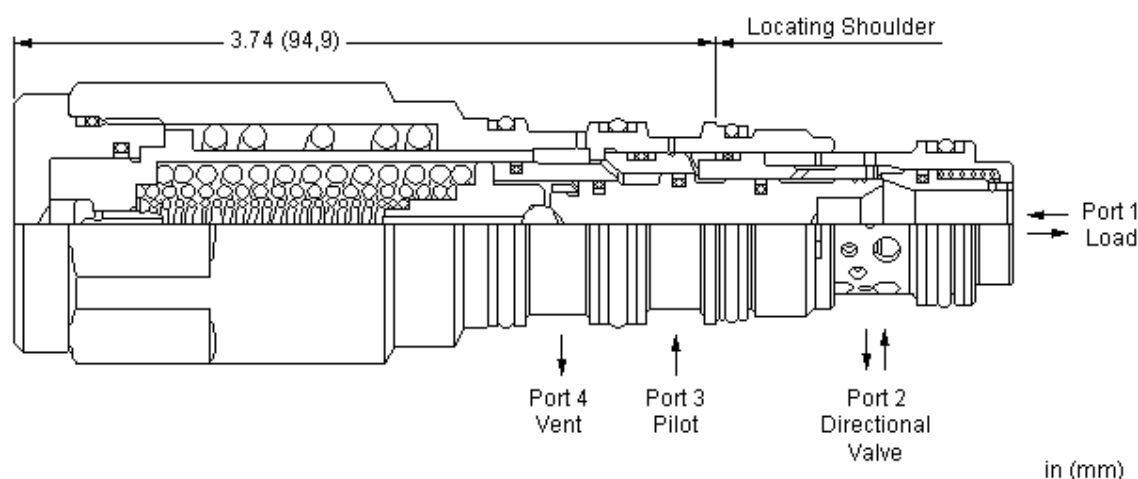
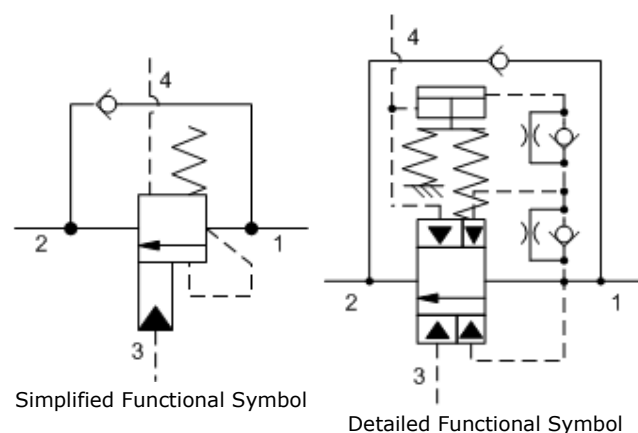
**Products : Cartridges : Counterbalance, LoadMatch™ : 4 Port, Vented : Low Gain, Best Stability**

Model:

**MWEP**

### Product Description

These valves are self-setting counterbalance valves which combine additional functions in one package; reverse free flow, load and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting. Backpressure at port 2 does not affect self setting performance because the spring chamber references the vent (port 4).



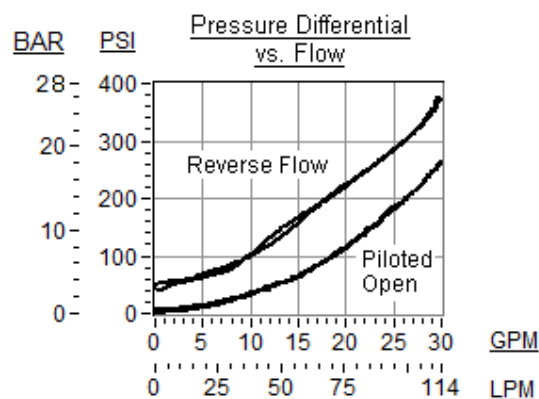
### Technical Features

- The LoadMatch™ control allows the setting of the valve to dynamically adjust in response to load pressure, while still providing a fixed thermal relief setting. The control creates a dynamic setting that is lower than the thermal relief setting, but is never more than necessary to provide safe, reliable load control. Also, since the dynamic setting is lower than the thermal relief setting, the pilot pressure required to open the valve is typically lower than other load control valves with similar thermal relief settings.
- LoadMatch™ control allows for lower pilot pressures under most loading conditions than other counterbalance valves with similar thermal relief settings.
- Pilot pressures for LoadMatch™ control are nearly identical for any load pressure in the operational range.
- The LoadMatch™ control utilizes an integral bypass damper that enables the valve to adjust rapidly to increasing load pressures for safe load control, but slows the reduction of setting for stability.
- The maximum recommended load holding pressure for the H range is 3075 psi (212 bar). The highest cracking pressure for the H range will be 3850-4250 psi (265-293 bar).
- The maximum recommended load holding pressure for the J range is 3850 psi (265 bar). The highest cracking pressure for the J range will be 4800-5300 psi (331-365 bar).
- The percentage difference between the cracking and the reseal values for the LoadMatch™ versions are identical. The setting tolerance is as noted.
- Sun load control and counterbalance cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.

- These valves are capable of modulating over a broader range of flows than the pure poppet designs. The longer stroke allows us to incorporate a uni-directional damping device that smooths the opening and lets the valve close quickly.
- All 4-port counterbalance, load control, and pilot-to-open check cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size). Note: This valve has a larger hex size than what is typical for its cavity and special consideration should be given in existing applications.
- The maximum recommended load holding pressure for the G range is 4625 psi (319 bar). The highest cracking pressure for the G range will be 5800-6350 psi (400-438 bar).
- This valve has positive seals between all ports.
- This valve has full relief capacity.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

## Technical Data

|                                          | U.S. Units                   | Metric Units |
|------------------------------------------|------------------------------|--------------|
| Cavity                                   | T-22A                        |              |
| Capacity                                 | 30 gpm                       | 120 L/min.   |
| Check Cracking Pressure                  | 25 psi                       | 1,7 bar      |
| Factory Pressure Settings Established at | 2 in <sup>3</sup> /min.      | 30 cc/min.   |
| Maximum Operating Pressure               | 5000 psi                     | 350 bar      |
| Maximum Valve Leakage at Reseat          | 5 drops/min.                 | 0,3 cc/min.  |
| Series (from Cavity)                     | Series 2                     |              |
| Reseat                                   | >85% of nominal Set Pressure |              |
| Valve Hex Size                           | 1 3/8 in.                    | 34,9 mm      |
| Valve Installation Torque                | 45 - 50 lbf ft               | 60 - 70 Nm   |
| Seal Kits - Cartridge                    | Buna: 990-022-007            |              |
| Seal Kits - Cartridge                    | Viton: 990-022-006           |              |



## MWEP-DHN

| Control                  | Factory Set                 | Seal Material            |
|--------------------------|-----------------------------|--------------------------|
| <b>Preferred Options</b> | <b>Preferred Options</b>    | <b>Preferred Options</b> |
| <b>D</b> LoadMatch™      | <b>H</b> 4000 psi (280 bar) | <b>N</b> Buna-N          |
|                          | <b>Standard Options</b>     | <b>Standard Options</b>  |
|                          | <b>G</b> 6000 psi (420 bar) | <b>V</b> Viton           |
|                          | <b>J</b> 5000 psi (350 bar) |                          |