NEXUS

SPECIFICATION
COIL PAK- PICV

Document: CPP05201501-5
Effective Date: October 7, 2022

Instructions:
Insert these specifications in section 23 21 13 – Hydronic Piping where applicable. Additionally, request a CAD detail from your Nexus Valve representative for your automatic flow control valve piping detail.

General:
Contractor shall provide and install pressure independent control valve coil piping packages at all locations as specified in the construction documents.

Coil Pak – Pressure Independent Flow Control:

1. Coil Paks shall be designed for a minimum 600 PSIG WOG working pressure for sizes ½" through 2½" and up to 325 degrees F. Pressure independent control valves shall be designed for a minimum 360 PSIG WOG working pressure for sizes ½" through 2" and up to 250 degress F.

2. Each Coil Pak is to include an Nexus Dynamic™ combination pressure independent control valve, integrated metering venturi with (2) pressure & temperature test plugs; UltraY™ combination y-strainer, isolation valve, blow down / drain valve, and union with (1) pressure and temperature test plug; UltraU™ accessory port union with (1) manual air vent and (1) pressure and temperature test plug.

3. Each Coil Pak shall be "Bagged & Tagged" for easy identification and storage.

4. Optional extended pressure and temperature test plugs, manual air vents and handles shall be available. Extended handles shall not break the vapor barrier when operated.

Pressure Independent Control Valves:

Function:

1. The valve must be usable with/or without actuator, either as an adjustable pressure independent flow limiter or as pressure independent control valve. The valve must have no requirements for straight up stream or downstream piping.

2. The valve must provide an integrated pressure regulator to control pressure across the control valve orifice, externally adjustable maximum flow setting, and integrated direct flow measuring venturi for flow verification.

3. The valve must have a single assembly removable flow cartridge for system flushing. The must have a universal actuator connection system to allow for 360° actuator positioning on the valve housing.

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4. The valve actuator must have full stroke available from the pre-setting position and provide 100% control valve authority. The valve shall have a linear flow characteristic.

Valve Body:

1. Valves 2" and smaller shall be a forged DZR brass, (2) pressure/temperature test ports for flow measuring, EPDM o-ring seals, permanent flow direction indication arrow, and rated at 360 PSI WOG, 250 degrees F. Valves shall be available in NPT connections; like the Nexus Dynamic™ (Model ND.)

2. Optional extended temperature test plugs shall be available.

3. The valve shall carry a 5-year product warranty.

Flow Regulation Cartride:

1. The flow cartridge's design shall control the regulation of pressure with and integrated EPDM diaphragm, stainless steel spring pressure control disc.

2. The flow cartridge shall be factory flow tested and calibrated to maintain accuracy of ±7%; the accuracy shall be maintained over a standard operating range of 4 – 58 PSID and consist of an integrated Venturi nozzle with ±3% accuracy for direct flow measurement.

3. The flow cartridge shall be color coded to indicate the flow range for each valve size and must be visible without removing the cartridge. Cartridges that are not marked with the manufacture flow rate range or must be removed to verify are not acceptable.

4. The flow cartridge shall carry a 5-year product warranty.

Actuators:

1. Actuator shall be manufactured by Nexus Valve or approved equal.

2. Actuator shall be provided by Nexus Valve or "By Others".

3. Actuator control signal shall either be; 0-10v proportional, 2-10v proportional, On/Off, or 3-Position Floating.

4. Actuators are warranted per the supplier's terms & conditions.

Y Strainers:

Y type strainers ½" through 2½" shall be a combination Y Strainer and Ball Valve with integrated Union. Valves shall be a forged DZR brass construction for sizes ½" through 1½" and cast DZR brass for sizes 2" – 2½" with the following features; like Nexus UltraY™ (Model UY).

1. A minimum of 600 PSI WOG, 325 degrees F.

2. Interchangable union end with FKM o-ring seal.
3. Multiple ¼" tapped ports for test plugs, vents or other accessories.
4. Blowout proof stem with dual FKM o-rings.
5. Hard chrome plated ball with Teflon™ seats.
6. A 304 stainless steel filter screen accessible without affecting the valve piping.
7. A port in the filter cap for a blow down/drain valve.
8. Valves shall be available with NPT, SWT, PRESS or PUSH connections.
9. Optional solid staineless steel ball and stainless steel valve stem shall be availble.
10. Valve shall carry a 5-year product warranty.

Unions:

Unions ½" through 2" shall be a combination ported type. Unions shall be a forged DZR brass construction with the following features; like Nexus UltraU™ (Model UU).

1. A minimum of 600 PSI WOG, 325 degrees F.
2. Interchangable union end with Viton o-ring seal.
3. Multiple ¼" tapped ports for test plugs, vents or other accessories.
4. Union shall carry a 5-year product warranty.

Optional Stainless Steed Braided Hoses:

Contactor at his option may use stainless steel flexible hose assemblies. Hose materials shall be stainless steel braiding over a Kevlar reinforced EPDM rubber tube with the following features; like Nexus UltraFlex™ (Model UFHF, UFHM, UFH).

1. Ferrules shall be stainless steel for sizes ½" – 2".
2. Hoses ½" – 1" shall be double swivel design.
3. End fittings for sizes ½" – 2 shall be brass NPSM swivel with seal or MNPT.
4. Temperature rating for ½" – 2" hoses shall be 5 – 248 degrees F.
5. Working pressure shall be 400 PSI for ½" – 1" and 300 PSI for 1¼" – 2".
6. Hoses shall meet or exceed ASTM E 84-00 fire rating. (NFPA 255, ANSI/UL 723 & UBC 8-1)
7. Size 2½" stainless steel braiding over stainless fire rated tube shall be available.
8. Hoses shall carry a 5-year product warranty.

Approved Manufacturers:

1. Nexus Valve, Inc.