INSTALLATION

Estimate the resistance of the future work, including the fully open resistance of the two valves in the future loop.

Add at least 50% to the calculated resistance. This will cover for the extra bends etc that the future work may contain. It is assumed that the required future flow rate can be estimated with reasonable accuracy.

On a new system, when making pump duty calculations, this resistance future works resistance must be considered as a terminal in the future work may become the index point of the system.

Fit the loop as the drawing. The loop must contain one commissioning station, one double regulating valve and two binder test points.

The commissioning station mast be sized to suit the flow rate. The double regulating valve is likely to be the same size but must be of a size that can be shut down to the calculated future resistance at a setting not less than the manufacturers minimum position.

When the system is extended, the loop is removed, but the two valves and the test points remain.

It does not matter where the connection for the future loop is located. It can be the end of the system, the middle, or near the pumps. The procedure will work for all locations.

COMMISSIONING WITH THE LOOP IN POSITION.

Before any balancing commences, set the double regulating valve to the calculated setting to simulate the resistance of the future works including the 50% margin.

With the double regulating valve set and locked, treat the future loop as a normal single plant item in the circuit.

COMMISSIONING WITH THE SYSTEM EXTENDED.

When the future work is complete, fully open the double regulating valve. Proportionally balance the terminals on the new works section at a figure close to the original balance percentage for what was the loop.

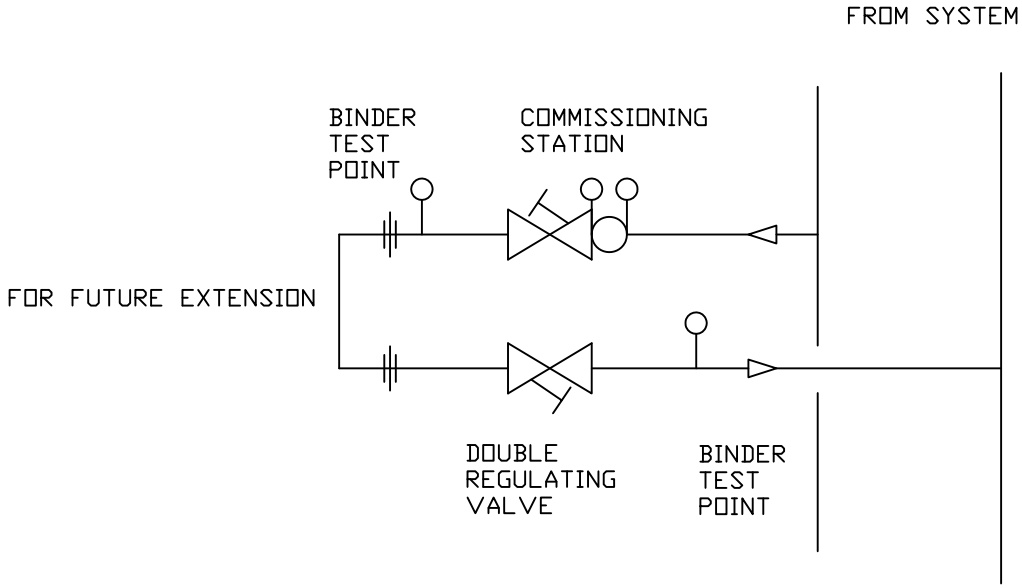
On completion, measure the pressure differential across the two binder test points. Adjust the double regulating valve and the commissioning station until 1) the resistance measured across the two binder test points is at the original preset resistance and 2) the flow rate is at the percentage flow rate for the loop at original balancing.

Assuming that the design rate for the future work was initially correctly calculated, then the system will be in full balance and the pump will be operating at the same point on its curve.

NOTES.

If the final design flow rate for the future work is recalculated at a lower flow rate than is set on the future loop, then the future work should include a standard loop with a commissioning station. This can then be set as if it were a terminal, with the flow rate equating to the difference between the original and final flow rates for the future works.

If the final flow rate for the future work is recalculated at a higher flow rate than was set on the future loop, then the original circuits will have to be rebalanced.




B.S.C.
B.S.C. 79 Woodlands Way, Mildenhall, Suffolk, IP28 7JA
Tel: 01638 715315 Fax: 01638 715585 e-mail: info@bscengineers.com