

Smart Solutions for Pressure, Level, Flow & Leakage Management

Sewer & Outfall Solutions



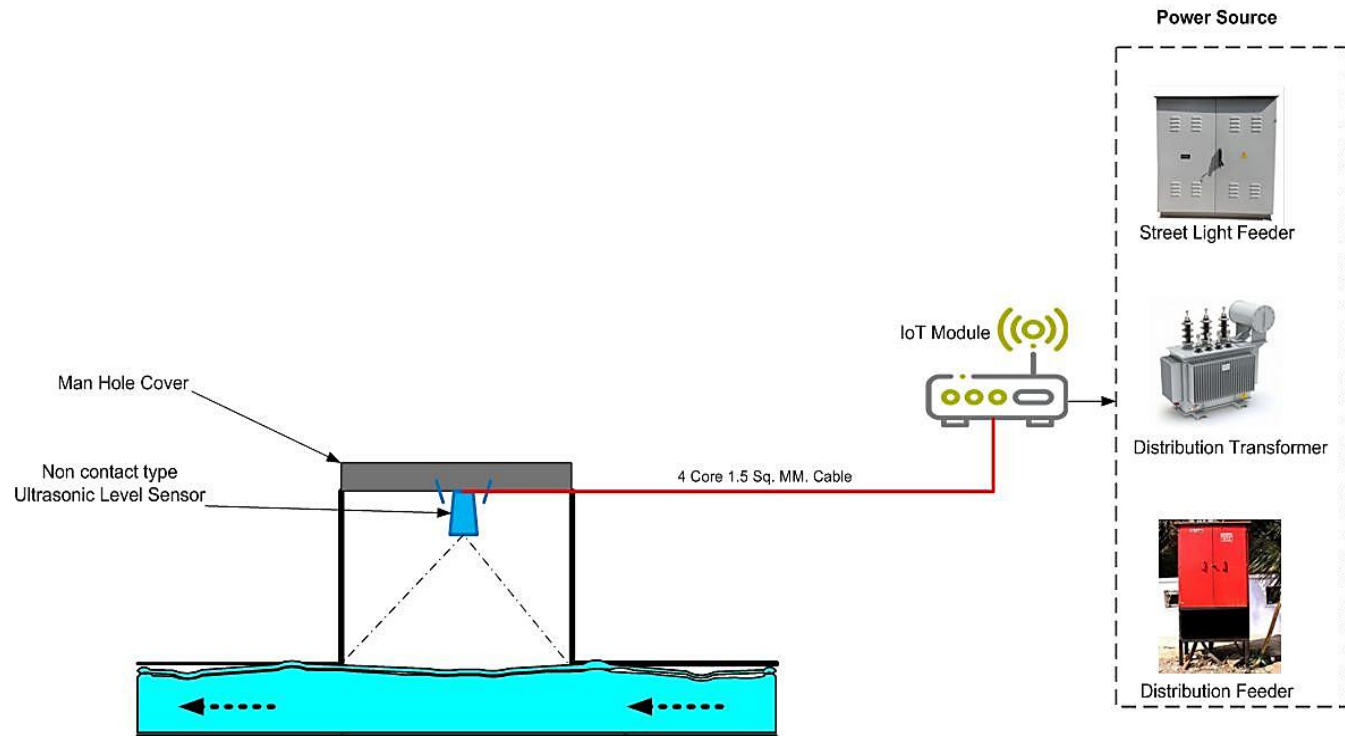
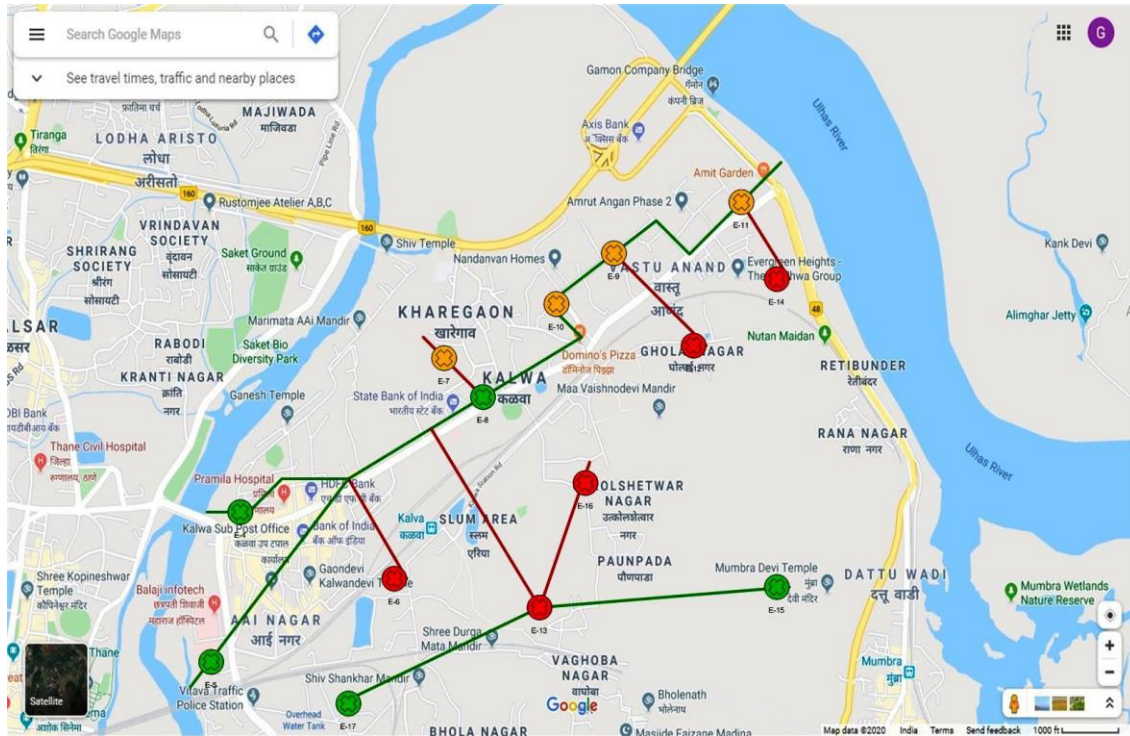
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Alpine Flowtech

- Experience
- Knowledge
- Solution
- Dedication
- Action
- Support

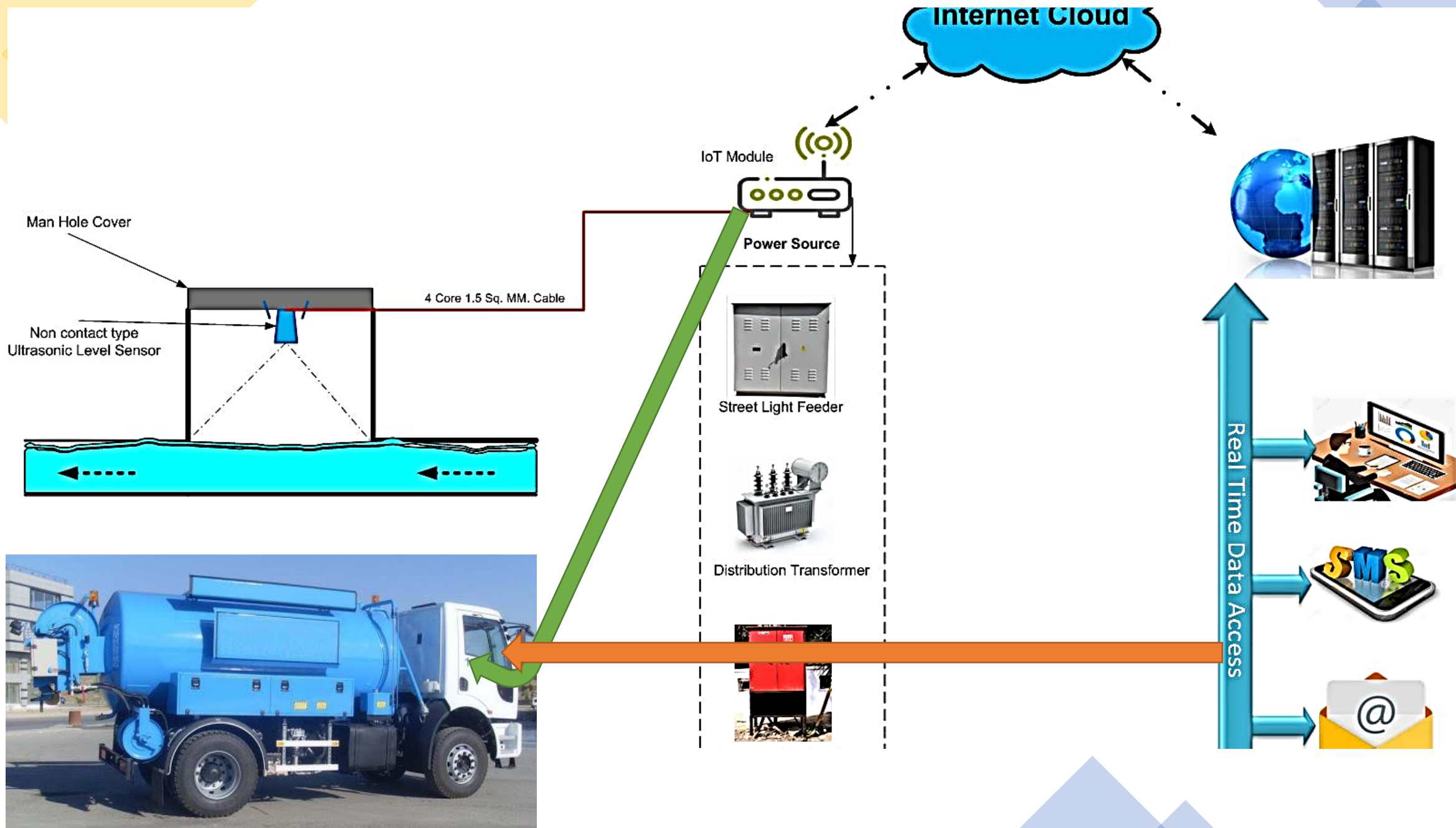
IOT - SEWER CHAMBER MONITORING

GPRS based Sewer Chamber Flow monitoring and Threshold Breach communication to Central command center. Parallel feedback to Jetting Vehicles by mobile SMS with GPS location of the problem spot. Critical Problem Spot Real Time Monitoring. Data Interpretation & Peak factor Profiling.



- INSTRUMENTATION
- PLC-IOT
- DATA COLLECTION – ANALYSIS – LOG
CREATION – STORAGE
- FEEDBACK – ALERTS
- PREVENTION OF CATASTROPHY
- SUSTAINABLE SOLUTION

IOT - SEWER CHAMBER MONITORING





Project : Rumah Pam Taman Makok, MPSP
 Equipment : Proco Check Valve Style 710-900mm
 Quantity : 1 unit

Supplied in Jan 2012



Project : Rumah Pam Taman Transerian, Nibong Tebal, MPSP
 Equipment : Proco Check Valve Style 730-600mm
 Quantity : 1 unit

Supplied in Aug 2013



Project : USM, Malaysia.
 Equipment : Pro Check Valve - 900mm diameter
 Quantity : 3 Units

supplied in June 2007



**The Expansion Joint
 and
 Check Valve People**

OUTFALL MANAGEMENT

DO YOU FACE ALL OR ANY OF THESE PROBLEMS?

- FLOODING & HIGH TIDES
- BACK FLOW IN TO OUTFALLS
- WATER LOGGING
- EFFLUENT DISPOSAL/DIFFUSION
- OUTFALLS TO OCEAN FRONTS FROM HEAVY RAINFALL ACTIVITY
- LAND EROSION DUE TO BACK FLOW CONDITIONS
- INVASION OF SALTWATER TO FRESHWATER POND
- SEWAGE SLURRIES
- THE SERIES 700 PROFLEX™ RUBBER DUCKBILL CHECK VALVES PROVIDE BACKFLOW PROTECTION FROM SUCH OCCURRENCES



PRODUCT DISCRIPTION & ADVANTAGES

The PROCO Series 700 ProFlex™ Rubber Check Valves are a cost-effective way to control back pressures from sewage treatment plants, outfalls and tidal operations. They are a fully passive flow device requiring neither maintenance nor any outside sources of power or manual assistance to operate. The PROCO series 700 ProFlex™ Check Valves are offered as direct replacements for ineffective and maintenance ridden flap type check valves, commonly known to seize, rust and bind in unwanted positions. Unlike flap type valves, the ProFlex™ rubber check valves will handle large obstructions without jamming or having swing gates binding open.

The PROCO Series 700 ProFlex™ rubber check valves provide backflow protection from:

- 1) Sewage slurries,
- 2) Outfalls to ocean fronts from heavy rainfall activity,
- 3) Prevention from land erosion due to back flow conditions,
- 4) Protection from saltwater to freshwater ponds and catch basins and numerous other water-based applications.

Benefits of the PROCO Series 700 ProFlex™ Rubber Check Valves:

All rubber construction resists abrasive slurries

Barnacle resistant Neoprene is standard construction, with NSF61 material available.

Very quiet operation with no water hammer

Its unique design prevents backflow

Negligible maintenance and energy costs

Will not warp or freeze

Quick interchange with any flap type check valve

Available in sizes 1" - 96" . Available with special ID to suit concrete pipe.

1. Does the *ProFlex*[™] rubber check valve have to be installed in a certain position?

Yes; it should be installed in a vertical position with the bill being the vertical. In zero clearance situations the valve can be rotated up to 30-35 Deg to gain bottom clearance if required.

2. In which degree can the *ProFlex*[™] rubber check valve be installed?

Because the valve is not reliant on any hinges, gates, or weights the *ProFlex*[™] rubber check valve can be installed in any angle from vertical to horizontal.

3. What is "Back Pressure"?

When the *ProFlex*[™] rubber check valve is submerged in a liquid it is subjected to external pressure. It is critical that the maximum depth that the valve will be submerged is specified as this will be considered the maximum back pressure that the valve will be subjected to.

4. What is the cracking pressure to allow the valve to open?

1"to 2" of water column over back pressure will normally drain a pipe.

5. What back pressures can the *ProFlex*[™] rubber check valve withstand?

Back pressures are in direct relation to the size of the valve, on the smaller diameters it is acceptable to specify up to 200 psi of back pressure and on larger diameters a back pressure limitation would be approximately 12 psi. Each *ProFlex*[™] rubber check valve is manufactured to the exact line pressure, back pressure and flow rates which we require from you for manufacture. Proco can even supply valves up to 650 psi utilizing internal back pressure supports.

6. What are the most common installations?

The *ProFlex*[™] 710 flanged rubber check valve is bolted directly to a head wall replacing an existing flap gate, the *ProFlex*[™] 730 sleeved type rubber check valves are clamped directly to a fabricated flanged nipple or clamped directly to an existing pipe.

7. Can I use the *ProFlex*[™] rubber check valve on potable water applications?

The *ProFlex*[™] rubber check valves are available with an ANSI/NSF-61 certified elastomer. Due to the large demand for clean water and potable applications, this will eliminate the concerns commonly affiliated with contaminants or leaching of elastomers in potable water systems.

8. Can the *ProFlex*[™] rubber check valve be installed on an "out of round" pipe?

Yes, please have the approximate dimensions from 4 different angles to provide proper sizing.

9. Can river currents and ocean waves damage the valves?

In most cases river currents and ocean waves will not damage the *ProFlex*[™] rubber check valves, but if currents or waves in question are of an abnormal nature, it is suggested that side walls or rock pilings are utilized.

10. Can the *ProFlex*[™] rubber check valve be used as a pressure relief valve?

The *ProFlex*[™] rubber check valves have been designed to offer superior service as a backflow preventer and can also be considered as a pressure relief valve. Often used on reservoirs to prevent hydraulic lifting or floating of tanks.

11. Can PROCO make a special design to suit my requirements?

In most instances the *ProFlex*[™] rubber check valve can be fabricated to suit different applications. Contact PROCO for your requirements.

12. What types of elastomer are available?

The *ProFlex*™ rubber check valves can be manufactured and supplied to withstand almost any type of media. Most commonly supplied is a barnacle and algae resistant Neoprene. Other common elastomers available are ANSI/NSF-61, ANSI/NSF-372 & EPDM. Contact Proco for other available elastomers.

13. What types of materials are available for the backing rings and banding clamps?

ProFlex™ rubber check valves are supplied with 316 stainless steel backing rings and 304 stainless steel clamps as a standard. Other materials are available upon request.

14. Can the *ProFlex*™ 710 be supplied with special flanges or drilling?

Yes, the standard drilling pattern is ANSI 125/150# drilling, other drilling standards such as: ANSI 250/300#, BS-10, DIN NP-10 and DIN NP-16, JIS-5k and JIS-10K are available upon special request.

15. Can I install a *ProFlex*™ rubber check valve near a residential area?

Yes, one of the unique features of the *ProFlex*™ rubber check valve is the design of the bill section. While the bill will open and allow passage of fluid when head pressure is present, the bill will close and not allow children or animals to crawl inside when there is no head pressure.

Since the *ProFlex*™ rubber check valve is manufactured entirely of rubber compounds there is no chance of loud banging which is commonly heard from flap type valves.

16. Can I use a *ProFlex*™ rubber check valve in winter conditions?

Yes, as in any installation the *ProFlex*™ rubber check valve will not be hindered by winter or sub-zero installations. If the valve is installed in a running water application the valve will continue to operate satisfactorily, due to the elastomers unique chemical makeup. If unusual circumstances occur the *ProFlex*™ rubber check valve will freeze without any damage and will return to operation upon thaw.

17. Will the *ProFlex*™ rubber check valve operate if buried in sand or sediment?

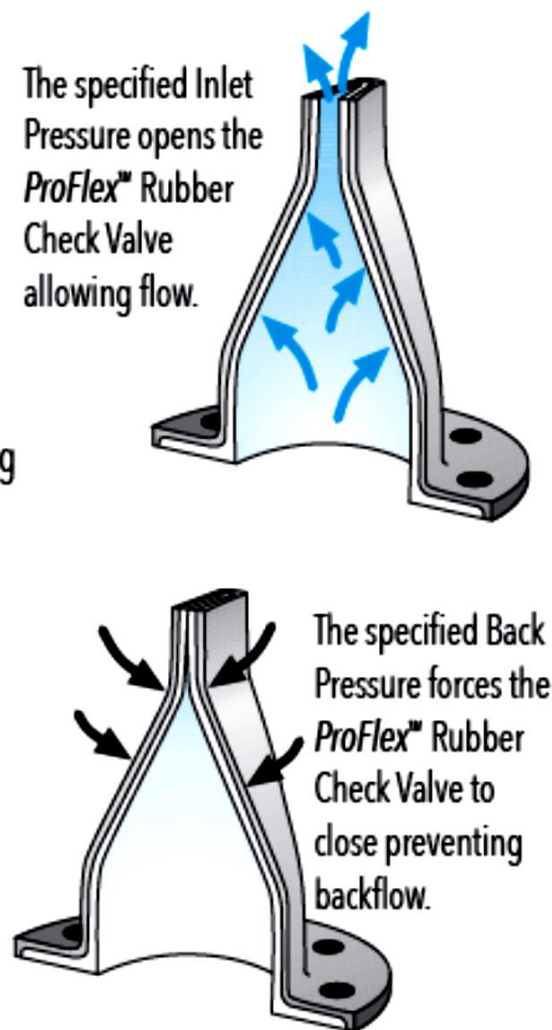
In normal conditions the discharge flow will create a small flow pattern which will then be followed by the flow velocity of the media. This velocity will flush the rest of the sediment away from the valve opening. This has been found to be unique only to the straight bill design as supplied by Proco.

18. What is the maximum temperature that the *ProFlex*™ rubber check valve can handle?

Temperature can range from - 65 Deg to +400 Deg depending on the specified elastomer.

19. What is the life expectancy of the *ProFlex*™ Rubber check valves?

All of the *ProFlex*™ valves are manufactured with the highest grade of elastomers, which commonly are known to supply 35-50 years of service life.



Benefits of the PROCO Series 700 ProFlex™ Rubber Check Valves:

- All rubber construction resists abrasive slurries
- Barnacle resistant Neoprene is standard construction, with NSF61 valves also available.
- Very quiet operation with no water hammer
- Its unique design prevents backflow
- Negligible maintenance and energy costs
- Will not warp or freeze
- Quick interchange with any flap type check valve
- Available in sizes 1" - 96"
- Available with special I.D. to suit concrete pipe.



Proco
Style **710**
ProFlex™ Flanged
Rubber Check Valves



Proco
Style **711**
ProFlex™ Flanged
Slope Bottom Check Valves



Proco
Style **730**
ProFlex™ Slip-on
Rubber Check Valves



Proco
Style **731**
ProFlex™ Slip-on Slope
Bottom Check Valves



Proco
Style **720**
ProFlex™ In-line
Flanged Rubber
Check Valves



Proco
Style **740**
ProFlex™ Slip-in Style
In-line Rubber Check
Valves



Proco
Style **750**
ProFlex™ Jacketed
In-line Flanged
Rubber Check Valves



Proco
Style **770**
ProFlex™ Wafer
Style In-line Rubber
Check Valves



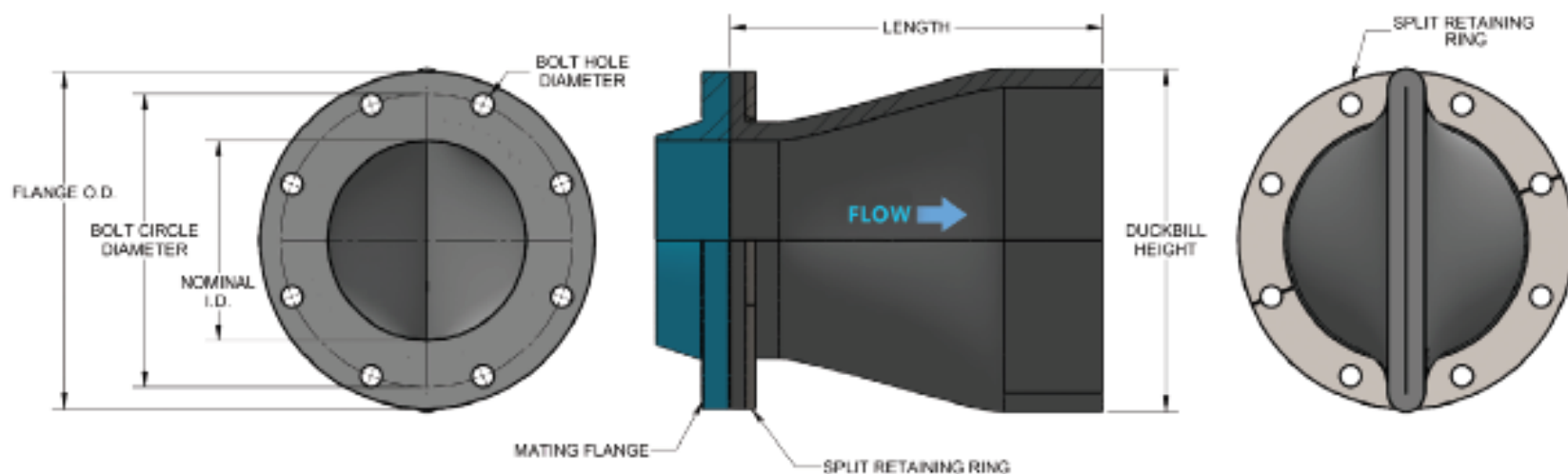
Proco
Style **780**
ProFlex™ Wafer
Style In-line Flanged
Rubber Check Valves



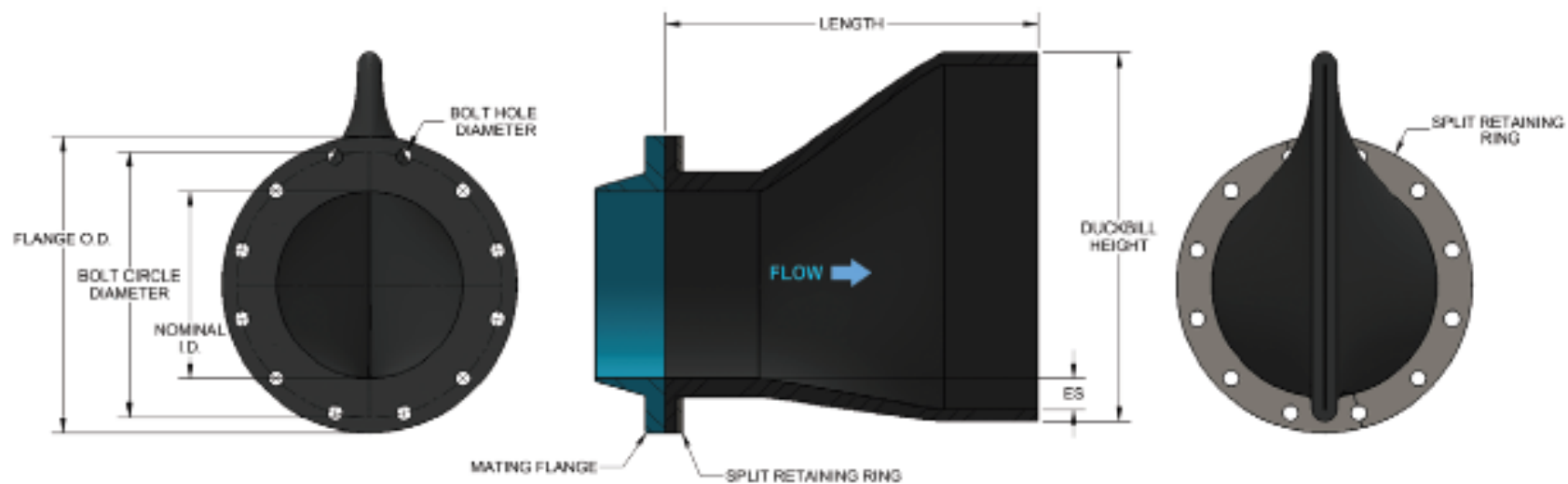
Proco
Style **790**
ProFlex™ Low
Headloss In-line
Rubber Check Valves



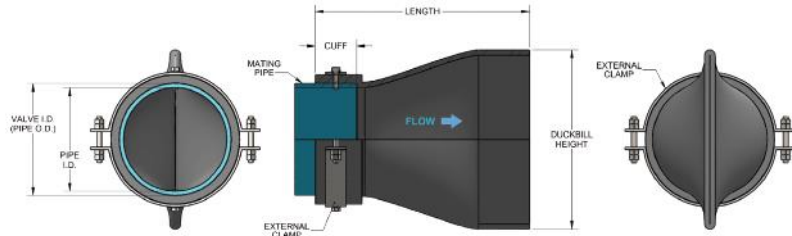
Detail of the *ProFlex*™ Flanged Rubber Check Valve; Style 710



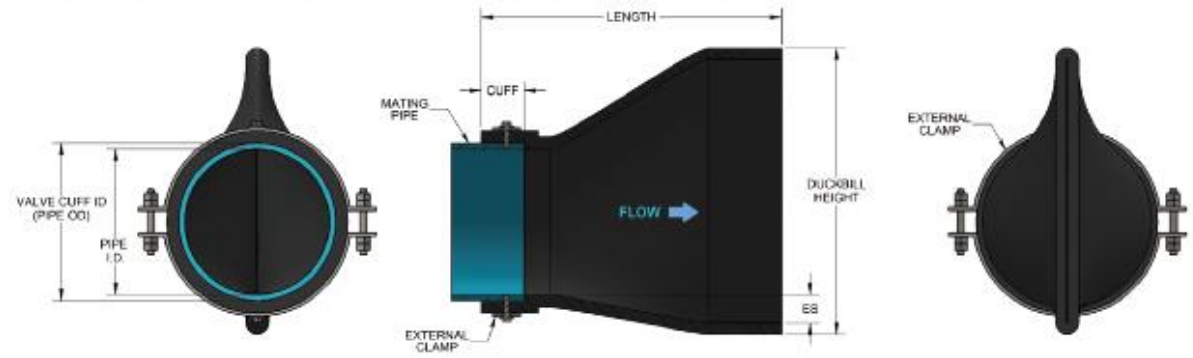
Detail of the *ProFlex*™ Flanged/Slip-On Slope Bottom Check Valve; Style 711



Detail of the ProFlex™ Slip-on Rubber Check Valve; Style 730



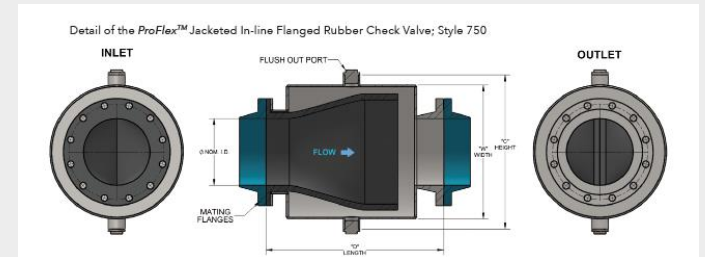
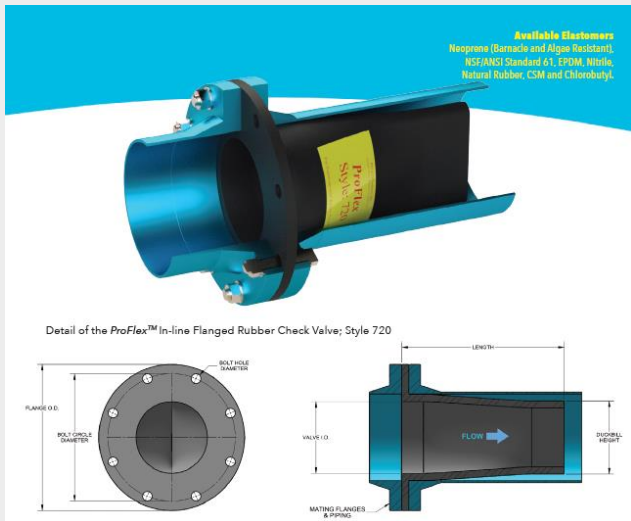
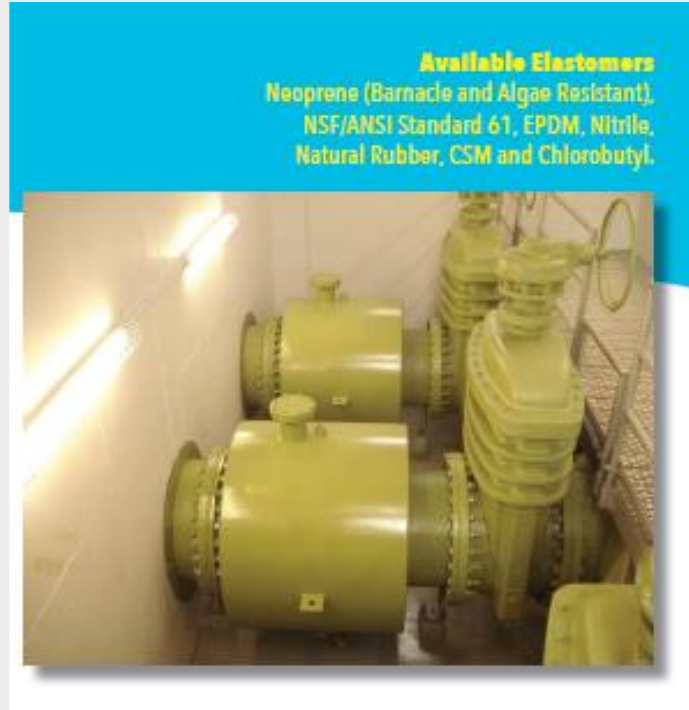
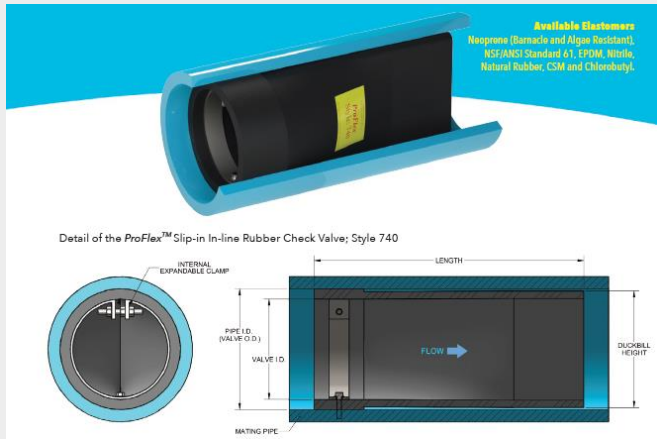
Detail of the ProFlex™ Flanged/Slip-On Slope Bottom Check Valve; Style 731



Available Elastomers

Neoprene (Barnacle and Algae Resistant),
NSF/ANSI Standard 61, EPDM, Nitrile,
Natural Rubber, CSM and Chlorobutyl.







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 Neoprene (Barnacle and Algae Resistant),
 NSF/ANSI Standard 61, EPDM, Nitrile,
 Natural Rubber, CSM and Chlorobutyl.

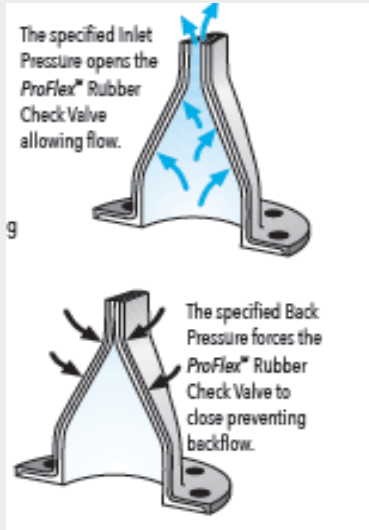
Detail of the ProFlex™ Low Headloss In-line Rubber Check Valve; Style 790

Upstream Clamp

Downstream Clamp

Upstream Flanged

Downstream Flanged



**The Expansion Joint
 and
 Check Valve People**

For more insight

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