Raphael
Beyond Valves

PRODUCT CATALOG

FIRE PROTECTION

IRRIGATION

WATERWORKS

SMART SOLUTION

RAPHAEL is a leading manufacturer and supplier of high-quality valves and fluid control systems, serving industries worldwide.

With decades of expertise in valve engineering and a commitment to innovation, we specialize in providing durable, efficient, and cost-effective solutions for a wide range of applications, including oil and gas, petrochemical, water treatment, power generation, and HVAC systems.

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RAFP

RAFP valves are entirely manufactured from durable plastic materials, with state-of-the-art patented diaphragm. The RAFP valves offer the best corrosion resistance available in plastic technology with the stream lined, low friction hydraulic performance of the RAF metal valve. RAFP valves operate with a patented reinforced diaphragm, which eliminates the need for a metal spring. The special elastic design enables gradual and precise opening and closing of the valve, ideal for regulation purposes. By eliminating the metal spring, the RAFP are virtually maintenance free.

- **Application:** Irrigation, Turf, mining
- **Pressure**: PN10
- **Diameter**: 1.5”- 4”



RAF

Unique diaphragm-operated control valves featuring an innovative three-part design and a patented spring-free reinforced diaphragm. This unique design provides accurate pressure and flow regulation under varying operating conditions, while ensuring gradual and precise valve opening and closing to minimize water hammer. The simple, robust construction delivers long service life with virtually maintenance-free operation. Valves are available in a wide range of materials and protective coatings to meet the requirements of diverse applications and operating environments

- **Application**: Irrigation, water supply, infrastructure, sewage, mines
- **Pressure**: PN16
- **Diameter**: 1”- 16”



RAVE

Hydraulic double-chamber Y-pattern control valve. Its unique valve body design, incorporating a V-shaped throttling plug, provides superior pressure and flow regulation over a wide operating range. The valve maintains stable and highly accurate control under varying flow rates and pressure conditions, making it the preferred solution for demanding applications where precise hydraulic control, system stability, and reliable performance are essential.

- **Application** : Municipal Water Supply, Water Infrastructure, Commercial & Residential Buildings, and Plumbing Systems
- **Pressure**: PN16-PN25
- **Diameter**: 2”- 12”



RAY-HB

Diaphragm actuated hydraulic control body with rigid sealing and full passage construction for minimal standing losses or reduced passage for optimum performance. The valves enables quiet and stable operation and are suitable for installation near or inside buildings.

- **Application**: Water supply, infrastructure, plumbing
- **Pressure**: PN16
- **Diameter**: 2”- 48”



G TYPE

Piston-actuated hydraulic control valves with a particularly strong and durable construction, providing maximum reliability over years of operation. The valves are suitable for high-pressure and demanding applications. The valve structure and its unique V-Port plug enable exceptional pressure and flow regulation under the most challenging conditions, over a wide range of pressures and flow rates, with outstanding control accuracy

- **Application**: Water supply, large water infrastructures
- **Pressure**: PN16-PN64
- **Diameter**: 2”- 48”

DELUGE SYSTEMS



The FDV is a UL/FM approved Fire Protection control valve for Deluge fire sprinkler systems, designed for installations in hazardous environments. It can be actuated electrically, pneumatically or electro-pneumatically, and to be reset locally or remotely. The Deluge system incorporates an emergency valve, bypassing the fire detection systems for manual operation. Designed for vertical or horizontal installation, a globe pattern, line pressure operated. The FDV valve features a direct elastomeric diaphragm seal.

- **Application**: Refineries, industrial plants, warehouses, parking lots
- **Pressure**: 1 – 17.2 bar
- **Diameter**: 1.5”- 10”
- **End Connections**: FL, TH, GR

PRESSURE CONTROL VALVES



The FDV-R is a UL/FM approved Fire Protection control valve for the use of pressure reducing, relief and level control, are elastomeric diaphragm type, open fail-safe streamlined globe & angle pattern valves, featuring direct resilient diaphragm seal, with no wet spring or metallic moving parts inside the valve body.

FDV-R valves are used for fixed fire suppression systems, water, foam and seawater-based flow control, in manual or remote on-off & pressure control applications. FDV-R valves operate with a patented reinforced diaphragm, which eliminates the need for a compensating metal spring.

- **Application**: Regulation and maintenance of pressure and flow in fire protection system.
- **Pressure**: up to 17.2 bar
- **Diameter**: 1.5”- 16”
- **End Connections**:: FL, TH, GR

PREACTION SYSTEMS



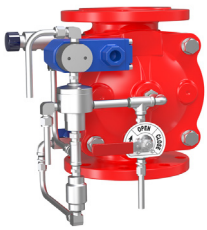
The Preaction UL/FM approved system is based on a controlled FDV deluge valve and a clapper check valve installed at its downstream. The clapper check valve is kept closed by the pressurized automatic sprinklers pipe line.

The space between the closed deluge downstream side and the closed clapper, serves as the “Intermediate chamber” where the acoustic alarm and pressure switch are connected to.

In a fire situation, the flames heat shatters open of one or more of the automatic sprinklers causing the pipe line to depressurize. The pressure decrease causes a pneumatic actuator to open. This is considered as one event of actuation.

- **Application**: Exhibition halls, Museums, Offices, Server farms, Hangars
- **Pressure**: up to 17.2 bar
- **Diameter**: 1.5”- 10”
- **End Connections**: FL, TH, GR

MONITOR SYSTEMS



Monitor systems are designed to provide large volumes of water to a target location, or a sector. Monitor systems are fast acting, versatile and can be set to extinguish fire by projecting water or foam solutions from large distances, either by manual or remote-control devices. A monitor valve is attached to each monitor to enable its operation.

Monitor systems are controlled by electric, hydraulic or pneumatic actuators.

- **Application**: Water cannons, municipal hydrants
- **Pressure**: up to 17.2 bar
- **Diameter**: 1.5”- 16”
- **End Connections**: FL, TH, GR



BUTTERFLY VALVES

B7G/S – Resilient Seated Butterfly valves face to face to ISO 5752/EN558
- **Application**: Irrigation, air conditioning, water systems
- **Pressure**: PN16
- **Diameter**: 2”- 64”

B3 – Resilient Seated Butterfly valves with wide face to face
- **Application**: Water supply, infrastructure, plumbing, irrigation, wastewater
- **Pressure**: PN16-PN25
- **Diameter**: 3”- 36”

BTF/BHF/BJF – Double & Trip Eccentric flanged butterfly valves
- **Application**: Infrastructure, water supply, wastewater
- **Pressure**: PN16-PN40
- **Diameter**: 3”- 72”

KCS – Composeal Resilient Seated Butterfly valves
- **Application**: Industry, irrigation, water treatment
- **Pressure**: PN10
- **Diameter**: 3”- 72”



GATE VALVES

TRS/TRL – Gate Valve soft sealing wedge for drinking water
- **Application**: Water supply, Irrigation, water treatment
- Pressure: PN16 -PN25
- **Diameter**: 2”- 64”

TRS/TRL-WW– Gate Valve soft sealing, enamel coating and St. St. 316
- **Application**: Water supply, Industry, water treatment
- **Pressure**: PN16 -PN25
- **Diameter**: 2”- 48”

TMS – Type Wedge Gate Valve metal seated for drinking water
- **Application**: Water supply, Industry, water treatment
- **Pressure**: PN16 -PN40
- **Diameter**: 2”- 48”

TMS-WW – Type Wedge Gate Valve metal seated, for sewage
- **Application**: Sewage, Industry, water treatment
- **Pressure**: PN16 -PN40
- **Diameter**: 2”- 48”



PENSTOCKS

PENSTOCKS – a wide variety of industrial Penstocks for 4 or 3-sided sealed, for round or quadrangular openings.
- **Application**: Open channels, sewage, flooding
- **Diameter**: 150 – 4000 mm

KNIFE VALVES – Resilient Seated Knife Gate valve ERU-K1 with metal casting body and Stainless-Steel knife
- **Application**: Sewage, biogas, chemical, industry, food industry, mines
- **Pressure**: up to 10 bar bi-directional sealing
- **Diameter**: 2”- 24”
- **Pressure**: PN16-PN40
- **Diameter**: 3”- 72”

KCS – Composeal Resilient Seated Butterfly valves
- **Application**: Industry, irrigation, water treatment
- **Pressure**: PN10
- **Diameter**: 3”- 72”



ACTUATORS

Multi-turn Electric Actuators – BIFFI models for operating Gate Valves, Penstocks and large diameter valves.
- **Application**: Sewage, water infrastructure

Quarter-turn Electric Actuators – NA & SA models for operating quarter-turn valves such as Butterfly and Ball Valves
- **Application**: Water supply, sewage, treatment plants, filtration systems, industry

Pneumatic Actuators – A210 models for operating quarter-turn valves such as Butterfly and Ball Valves
- **Application**: Sewage, treatment plants, filtration systems, desalination plants, industry

APOLLO – Smart Data Logger



The APOLLO is a Smart Data Logger designed to enable monitoring and control of a wide range of parameters in the municipal water networks. The APOLLO contains digital and analog inputs to read water meters, flow meters, valves controlling and real time monitoring. Its robust design allows the APOLLO to work in harsh environmental conditions with high humidity, such as sewage pits and water tanks. The APOLLO supports different types of IoT communication protocols.

Main Technical Data:

- Operating temperature: +75ºC a -20ºC
- IP rating: IP68
- Power supply: Lithium v 7.2 14AH
- Types of communication: 2G/3G/4G/NB-IoT/
- LTE-M
- Analog inputs: 2
- Digital inputs: 4
- Digital outputs: 2
- Antenna type: external
- Pressure sensor: 2 (optional), 0-10, 0-20 bar
- Life time (estimated): up to 10 years
- Memory capacity: 90.000 records
- Target applications: Flow/pressure monitoring, level/tank monitoring, On/Off, other advanced applications.
- MODBUS Protocol
- **Application**: Control of flow, control of pressure, monitoring of sewers, monitoring of drainage pits, temperature, water quality.

MARS – Compact Data Logger



MARS is a compact and easy-to-use cellular data logger. The main purpose of the product is to monitor pressures and water meters in remote places in a simple and easy way, combined with advanced IoT communication, a built-in pressure gauge (optional) and an easy and user-friendly web interface.

Main Technical Data:

- Power supply: Lithium v 3.7 14AH
- Programming interface: BLE
- Memory capacity: 90.000 records
- Types of communication: 2G/3G/4G/NB-IoT/
- LTE-M
- Pressure sensor: 1 (optional), 0-10, 0-20 bar
- Digital input: 2
- Analog input: 1 (optional)
- Life time (estimated): up to 5 years
- **Application**: Flow and pressure monitoring

ZEUS WEB - WEB INTERFACE



The APOLLO is supported by a friendly and intuitive web interface called ZEUS WEB. The ZEUS WEB interface enables real-time alerts and a wide range of reports and graphs.

Main Technical Data:

- Dedicated cloud based server
- Bi-directional communications for remote sending of commands
- Intuitive HMI screens
- Data export to PDF and Excel files
- Support integration with existing customer systems and SCADA
- Data hosting for analytical evaluations
- Support in eight different languages

ULTRAF – Digital Ultrasonic Hydrometer



ULTRAF combines the highest level of pressure and flow control valve technology with an accurate and reliable Ultrasonic Water Meter in one compact design. ULTRAF PRO combines state-of-the-art technologies from different fields such as advanced hydraulics, accurate sensing and modern communications.

The ULTRAF is a unique product, based on the RAF control valve merged with the newest technology of battery operated, ultrasonic water meter. It enables flow monitoring and pressure regulation in a small footprint, saving significant space in manholes and valve boxes.

Main Technical Data:

- Nominal Diameter (DN): 40 mm- 200 mm (1.5" to 8")
- Pressure (PN): Nominal: 10-16; Working: 16 bar
- Working Temperature: up to 70 ˚C
- Body Material: Cast Iron or Stainless Steel
- Pipe connection: Flanges, Thread or Grooved
- **Application**: water distribution, agriculture (field crops, orchards, wineries), pressure control, pivot irrigation

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AIR VALVES

RAV – Single & Double chamber combination Air Valves for water, ANTI-SHOCK option

- **Application**: Water network
- **Pressure**: PN16-PN40
- **Diameter**: 1”- 12”

RAV-70 – Single chamber combination Sewage Air Valves – 3 functions

- **Application**: Sewage infrastructure
- **Pressure**: PN16-PN40
- **Diameter**: 1”- 12”



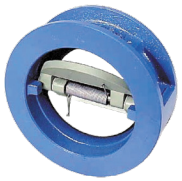
CHECK VALVES

CSW-51 – Dual Plate Wafer type Stainless Steel disc

- **Application**: Irrigation, air conditioning, water systems
- **Pressure**: PN16
- **Diameter**: 2”- 36”

S51 – Swing Rubber check valve vulcanized sealing part removable inspection cover

- **Application**: Irrigation, water network sewage
- **Pressure**: PN16
- **Diameter**: 2”- 24”



ES51 – Top Access Swing Check Valve with Extended Shaft Lever and Counterweight

- **Application**: Water supply infrastructure, sewage systems
- **Pressure**: PN16, PN25, PN40
- **Diameter**: 2”–36”

E51 – Double Eccentric Tilted Disc Check Valve

- **Application**: Water infrastructure
- **Pressure**: PN16, PN25, PN40
- **Diameter**: 6”–48”



STRAINERS

V-251 – “Y” type Strainer ST.ST. screen and maintenance opening

- **Application**: Municipality, irrigation, water system
- **Pressure**: PN16-PN25
- **Diameter**: 3”- 12”

V-251B – Basket type Strainer ST.ST. screen and maintenance opening

- **Application**: Municipality, irrigation
- **Pressure: PN10-PN40**
- **Diameter**: 4”- 24”



CONNECTORS

PAS10/PAS20/PAS30 – Dismantling joint with flange adjustment

- **Application**: Water infrastructures, pumping, sewage

2200L/1200L – Flange adaptors and Couplings

- **Application**: Water supply, sewage piping, pump rooms, irrigation infrastructures

FIELD SERVICE



Field service is an integral part of the overall package we offer to our customers. Whether it is in the areas of field crops and plantations, urban infrastructure or fire extinguishing installations in buildings. Wherever we are required to perform a complex or simple operation, we will be there fast, professionally and courteously.

The real strength of our company lies in the human capital and the deep and long-standing relationship with our variety of clients.

We are committed and proud to stand behind our products at all times.

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