



RAPHAEL

RAPHAEL PRODUCT RANGE



FIRE PROTECTION



IRRIGATION



WATERWORKS



SMART SOLUTIONS

RAPHAEL, founded in 1949, is the first Israeli manufacturer of water control valves. RAPHAEL's research department constantly strives to introduce new and innovative products and solutions for water control systems including water works, fire-protection and irrigation systems.

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CONTROL VALVES



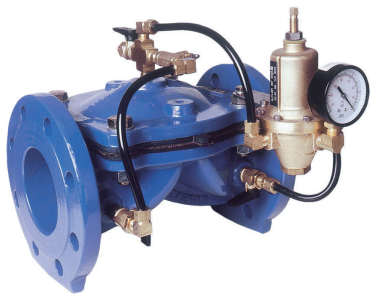
RAFP

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 streamlined, 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.

* **Uses:** Irrigation, Turf

* **Pressure:** PN10

* **Diameter:** 1.5" - 4"



RAF

RAF valves made of only three parts, each one made of durable materials. The inner flow passages are streamlined and coated with low-friction materials. This provides quiet flow in both directions, flow head loss and minimal wear. RAF valves operate with a patented reinforced diaphragm, which eliminates the need for a retaining metal spring.

* **Uses:** Irrigation, water supply, infrastructure, sewage, mines

* **Pressure:** PN16

* **Diameter:** 1" - 16"



RAVE

Hydraulic double-chamber "Y" pattern. The valve's structure, which includes a unique throttling V-shaped plug, allows optimal pressure regulation in a wide variety of flows, at variable pressures and at a high level of accuracy.

* **Uses:** Water distribution for pressure reducing, pressure sustaining, pressure relief, flow control, surge anticipation, level control and other control applications.

* **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 valve enables quiet and stable operation and is suitable for installation near or inside buildings.

* **Uses:** Water supply, infrastructure, plumbing

* **Pressure:** PN16

* **Diameter:** 2" - 48"



G TYPE

Piston-actuated hydraulic control valves, with a particularly strong and durable structure, which provide maximum reliability over the years. The valves are suitable for extreme conditions and high pressures. The valve structure and the V-Port seal bracket allow for extreme pressure regulation under the most difficult conditions, in a wide variety of pressures and flow and at a very high level of accuracy.

* **Uses:** Water supply, large water infrastructures

* **Pressure:** PN16-PN64

* **Diameter:** 2" - 48"

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 and agricultural water networks. The APOLLO contains digital and analogue 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: +75 to -20
- 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.
- **Uses:** 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
- Life time (estimated): up to 5 years
- **Uses:** Flow and pressure monitoring

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:

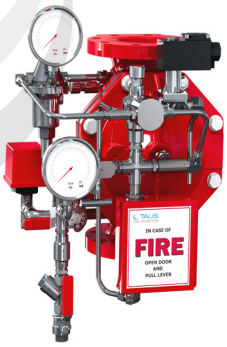
- Nominal Diameter (DN): 40 mm- 200 mm (1.5" to 8")
- Pressure (PN): Nominal: 10-16; Working: 16 bar
- Working Temperature: up to 70 °C
- Body Material: Cast Iron or Stainless Steel
- Pipe connection: Flanges, Thread or Grooved
- **Uses:** water distribution, agriculture (field crops, orchards, wineries),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

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.

FIRE PROTECTION



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-pneumatic, 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.

* **Uses:** Refineries, industrial plants, warehouses, parking lots

* **Pressure:** 1 – 21 bar * **Diameter:** 1.5" - 10"

* **End Connections:** FL, TH, V



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

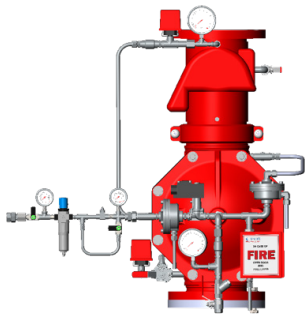
valves, featuring direct resilient diaphragm seal, with no wet spring or metallic moving parts inside the valve body.

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.

* **Uses:** Regulation and maintenance of pressure and flow in fire protection systems.

* **Pressure:** 1 – 17.2 bar * **Diameter:** 1.5" - 16"

* **End Connections:** FL, TH, V



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.

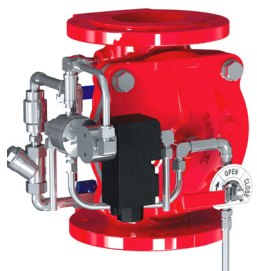
The space between the close deluge downstream side and the closed clapper, serves as the "Intermediate chamber" where the acoustic alarm and pressure switch are connected to.

In a fire situation, the flames heat shatters open 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.

* **Uses:** Exhibition halls, Museums, Offices, Server farms, Hangars

* **Pressure:** 1 – 21 bar * **Diameter:** 1.5" - 10"

* **End Connections:** FL, TH, V



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.

* **Uses:** Water cannons, municipal hydrants

* **Pressure (monitors + hydrants):** 1 – 17.2 bar

* **Diameter (monitors):** 1.5" - 16"

* **End Connections:** FL, TH, V

* **Diameter (hydrants):** 3" - 6"



FIRE HYDRANTS

Used as a connection point by which firefighters can tap into a water supply. It is a component of active fire protection. It provides a connection interface from public water source to firefighter's water hoses. The hydrant is equipped with a pressure-reducing valve in order to prevent injuries caused by unexpected high pressure.

* **Uses:** Local authorities

* FH/FH12/FH13: single and double hydrant

* **Diameter:** 3", 4", 6"

* F21: the safest and most reliable breaking device available in the market * **Diameter:** 4", 6", 8"

* F1/F2/F3/F4: complete hydrant including breaking device, upright single/double hydrant head

* **Diameter:** 4", 6", 8"

ISOLATION VALVES



BUTTERFLY VALVES

B7G/S – Resilient Seated Butterfly valves face to face to ISO 5752/EN558

* **Uses:** Irrigation, air conditioning, water systems

* **Pressure:** PN16

* **Diameter:** 2" - 64"

B3 – Resilient Seated Butterfly valves with wide face to face

* **Uses:** Water supply, infrastructure, plumbing, irrigation, wastewater

* **Pressure:** PN16-PN25

* **Diameter:** 3" - 36"

BTF/BHF/BJF – Double & Trip Eccentric flanged butterfly valves

* **Uses:** Infrastructure, water supply, wastewater

* **Pressure:** PN16-PN40

* **Diameter:** 3" - 72"

KCS – Composeal Resilient Seated Butterfly valves

* **Uses:** Industry, irrigation, water treatment

* **Pressure:** PN10

* **Diameter:** 3" - 72"



GATE VALVES

TRS/TRL – Gate Valve soft sealing wedge for drinking water

* **Uses:** Water supply, Irrigation, water treatment

* **Pressure:** PN16 -PN25

* **Diameter:** 2" - 64"

TRS/TRL-WW – Gate Valve soft sealing, enamel coating and St. St. 316

* **Uses:** Water supply, Industry, water treatment

* **Pressure:** PN16 -PN25

* **Diameter:** 2" - 48"

TMS – Type Wedge Gate Valve metal seated for drinking water

* **Uses:** Water supply, Industry, water treatment

* **Pressure:** PN16 -PN40

* **Diameter:** 2" - 48"

TMS-WW – Type Wedge Gate Valve metal seated, for sewage

* **Uses:** 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.

* **Uses:** opening channels, sewage piping, flooding

* **Diameter:** 150 – 4000 mm

KNIFE VALVES – Resilient Seated Knife Gate valve ERU-K1 with metal casting body and Stainless-Steel knife

* **Uses:** 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

* **Uses:** 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.

* **Uses:** Sewage, water infrastructure

Quarter-turn Electric Actuators – NA & SA models for operating quarter-turn valves such as Butterfly and Ball Valves

* **Uses:** Water supply, sewage, treatment plants, filtration systems, industry

Pneumatic Actuators – A210 models for operating quarter-turn valves such as Butterfly and Ball Valves

* **Uses:** Sewage, treatment plants, filtration systems, desalination plants, industry



NETWORK PROTECTION



AIR VALVES

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

* **Uses:** Water network

* **Pressure:** PN16-PN40

* **Diameter:** 1" - 12"

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

* **Uses:** Sewage infrastructure

* **Pressure:** PN16-PN40

* **Diameter:** 1" - 12"



CHECK VALVES

CSW-51 – Dual Plate Wafer type Stainless Steel disc

* **Uses:** Irrigation, air conditioning, water systems

* **Pressure:** PN16

* **Diameter:** 2" - 36"

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

* **Uses:** Irrigation, water network sewage

* **Pressure:** PN16

* **Diameter:** 2" - 24"



STRAINERS

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

* **Uses:** Municipality, irrigation, water system

* **Pressure:** PN16-PN25

* **Diameter:** 3" - 12"

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

* **Uses:** Municipality, irrigation

* **Pressure:** PN10-PN40

* **Diameter:** 4" - 24"



CONNECTORS

PAS10/PAS20/PAS30 – Dismantling joint with flange adjustment

* **Uses:** Water infrastructures, pumping, sewage

2200L/1200L – Flange adaptors and Couplings

* **Uses:** Water supply, sewage piping, pump rooms, irrigation infrastructures

