



YGROS
VALVES

Let it flow

Let it flow



GROS[®]
VALVES
Let it flow





COMPANY

COMPANY

It all began in 2004, when our engineering team had to find a solution to a particular plant application and came up with a unique solution: a spring-less check valve.

This led to the development of a patent covering a technology able to offer an essential, maintenance-free one-way valve, thanks to the total absence of traditional intermediate components.

The company developed under the name of **Carollo srl**, an engineering company with over 40 years of experience in the **food**, **chemical** and **pharmaceutical** sectors. After the success of the first prototypes, the project was constantly developed into the existing **EDF**, **3-A**, **Wafer**, **Pharmaball** and **Aggrobball**, **YEV** and **YSV** versions. Through this revolutio-

nary concept, the company **Carollo srl** brings the future to the world of plant engineering, guaranteeing new and ultimately unbeatable standards of hygiene, durability and efficiency. With this precise mission the company founded the **YGROS VALVES** division in 2010.

It quickly made its mark on the market, standing out from all the rest thanks to its innovative, patented magnetic technology; steadily rising sales and international awards confirm this. Driven by these successes and keen to evolve, our engineers always push research one step further, constantly coming up with new solutions and applications. That is why you will keep hearing about us.

The advantages of choosing our Valves

- ≡ NO BREAKAGE
- ≡ NO MAINTENANCE
- ≡ NO PRESSURE LOSS
- ≡ NO CORROSION
- ≡ NO FLOW OBSTRUCTION
- ≡ NO STAGNATION POINTS

Innovation is
our strength

The innovative,
patented, magnetic,
technology.



OUR VALVES

- 01 EDF •
- 02 EDF - 3A •
- 03 YEV •
- 04 YSV •
- 05 PHARMABALL •
- 06 AGGROBALL •
- 07 WAFER •

VALVES

Valve EDF*



* Self-draining eccentric version available on request.
Suitable for horizontal installation.

EDF: Maximum hygiene with no maintenance required. Tightness guaranteed in all installation positions, even vertical with downward flow.
The patented YGROS technology sets new standards in the plant engineering world, thanks to its magnetic principle that replaces the function of the traditional spring. Suitable for fluids and steam.

Resistant up to **220°C**.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

Applications

Pharmaceutical
Chemical
Cosmetic
Food
Beverage

BENEFITS AT A GLANCE

Maximum hygiene:

Only the shutter comes into contact with the product. There are no springs, discs or other components which could contaminate it, this means no contamination and no stagnation point.

Safe closing:

ensured by patented magnetic principle

Any installation position possible:

it can be installed in horizontal, vertical up and down positions.

Energy saving:

its innovative working principle and design allow for a smooth flow, minimising pressure drop.

Laminar flow:

No turbulence

Maintenance:

Free

Longer valve life:

Thanks to high chemical resistance of the materials



YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance, because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

Product contact materials	Body & Flanges: Stainless steel 1.4404 (AISI 316L) Shutter: (Duplex) – 1.4410 (F53)
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, NBR, HNBR, VMQ (Silicone), FKM (Viton) FEP, PTFE
Surface finishes	Internal: Ra $\mu\text{m} \leq 0.8$ (standard) fino a Ra $\mu\text{m} \leq 0.4$ electropolished and passivated (optional) External: Ra $\mu\text{m} \leq 3.2$ (standard) fino a Ra $\mu\text{m} \leq 0.4$ electropolished and passivated (optional)
End connection options	WELDING: DIN 11850 / DIN 11851 / ASME BPE / ISO 1127 / SMS TRI-CLAMP: ASME-BPE / ISO 1127-2852 / SMS-2852 / DIN 32676 THREADED: DIN 405 Female / BSP 60° Male / BSP 60° Female
Temperature range	-20°C/+150°C (Standard). Up to +220°C (optional)
Operating pressure	PN16 (standard). Further operating pressures on request
Media	Liquid, Gas, Steam
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: O-Ring / Surface roughness / ATEX / PED / EC 1935/2004

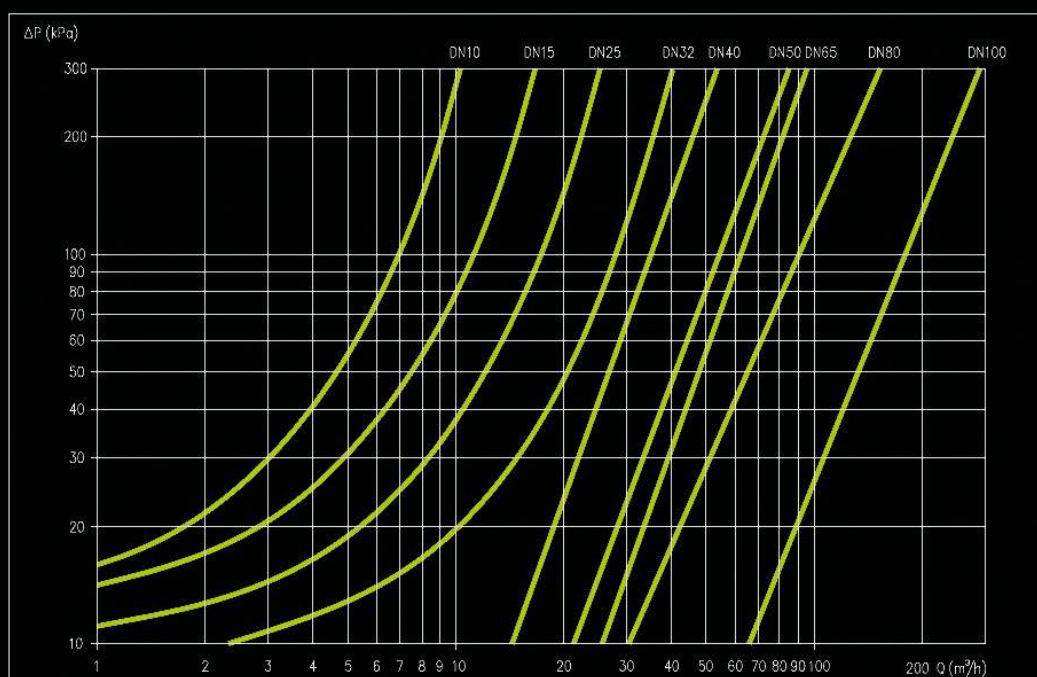
All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

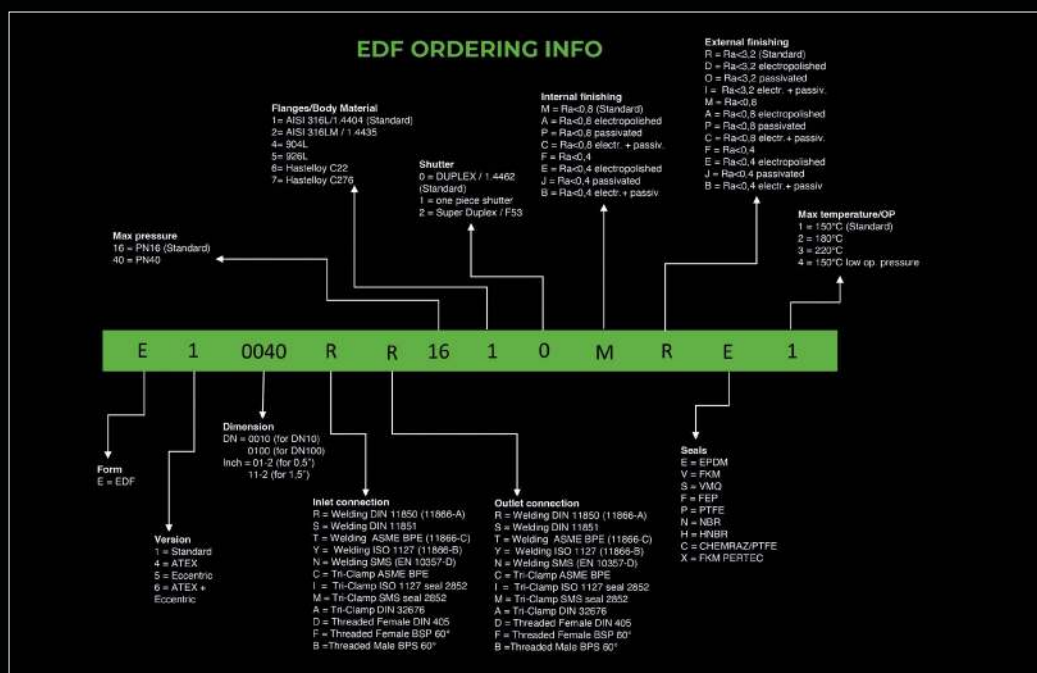
INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	30/50 mbar
VERTICAL lines	Top to bottom	27/45 mbar
VERTICAL lines	Bottom to top	33/55 mbar

PRESSURE DROP CHART

Graph reading applies to water at 20° C (68°F) installed in horizontal pipes



Customizable materials, finishings and further configurations available on request



Valve EDF 3-A

A
3



EDF 3A: Specially designed for the US market and officially approved by the 3-A Institute. Maximum hygiene with no maintenance required. Tightness guaranteed in all installation positions, even vertical with downward flow. Suitable for fluids and steam.

Resistant up to **220°C**.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

Applications

Pharmaceutical
Chemical
Cosmetic
Food & Beverage

BENEFITS AT A GLANCE

Maximum hygiene:

Only the shutter comes into contact with the product. There are no springs, discs or other components which could contaminate it, this means no contamination and no stagnation point.

Safe closing:

ensured by patented magnetic principle

Any installation position possible:

it can be installed in horizontal, vertical up and down positions.

Energy saving:

its innovative working principle and design allow for a smooth flow, minimising pressure drop.

Laminar flow:

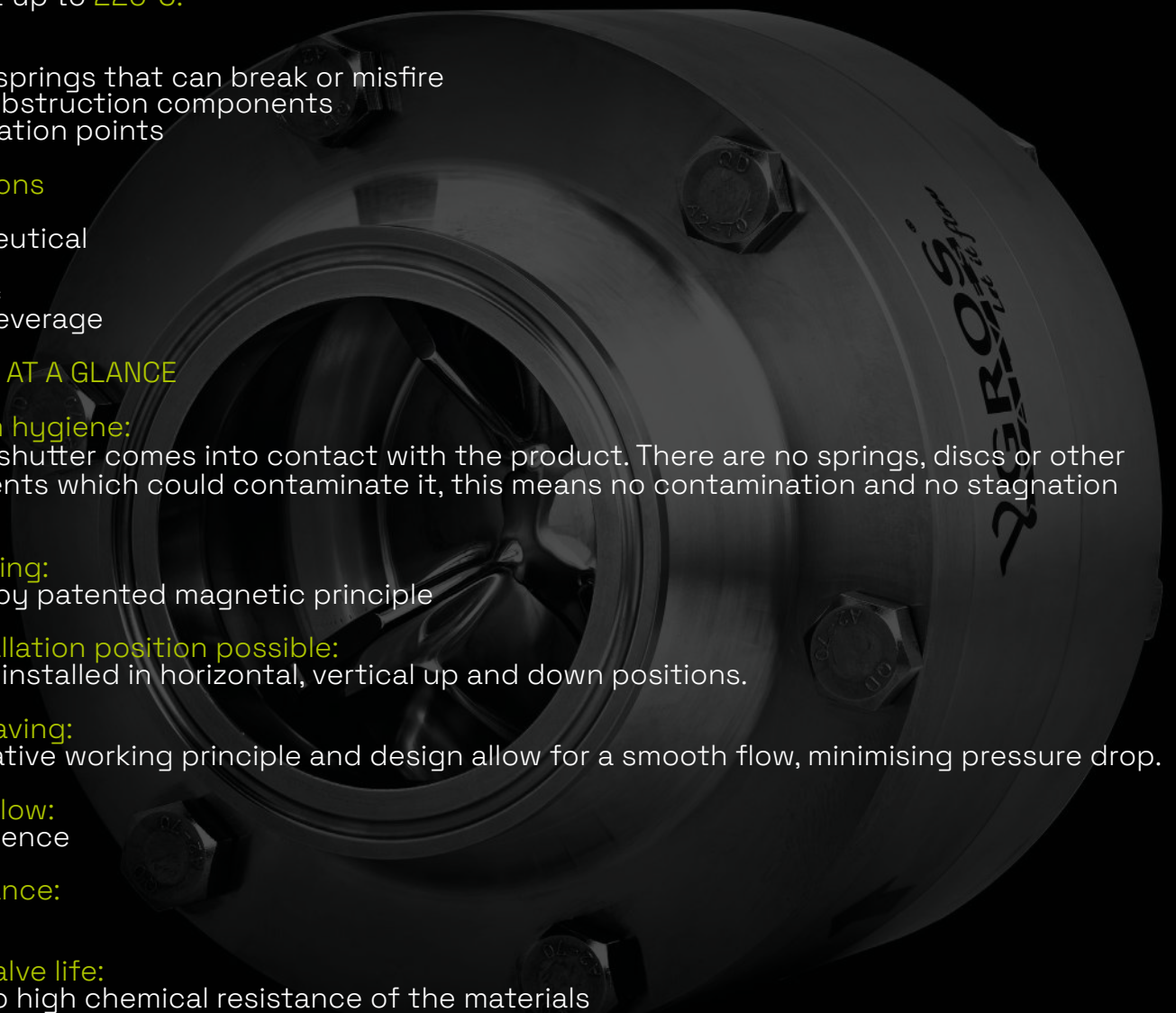
No turbulence

Maintenance:

Free

Longer valve life:

Thanks to high chemical resistance of the materials



YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance, because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

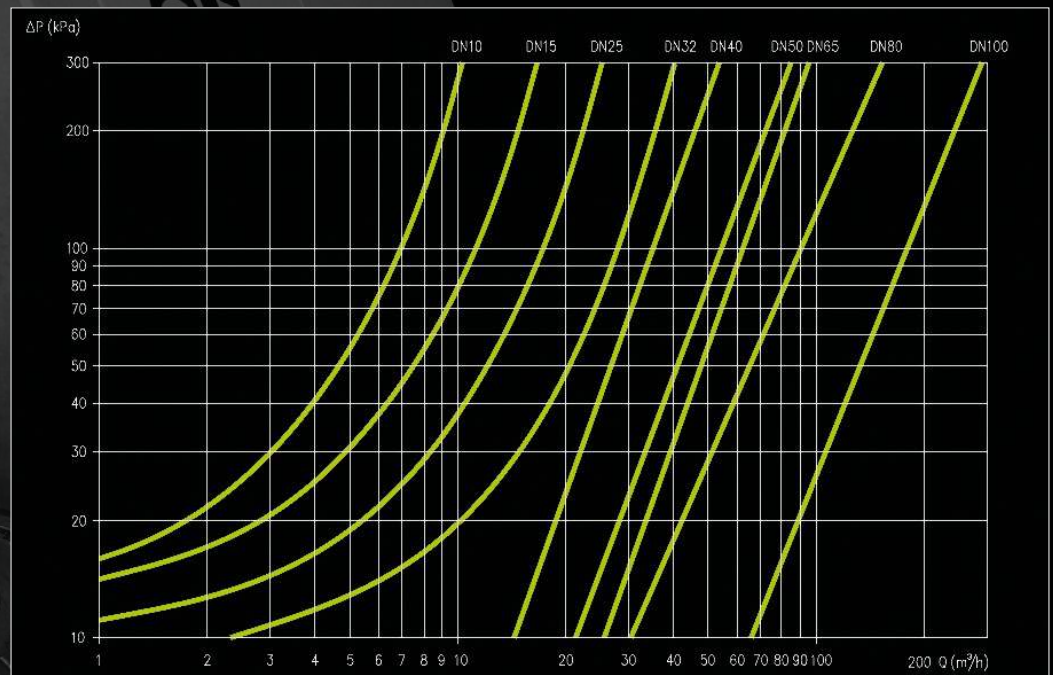
Product contact materials	Body & Flanges: Stainless steel 1.4404 (AISI 316L) Shutter: (Duplex) – 1.4410 (F53)
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, VMQ (Silicone), FKM (Viton)
Surface finishes	Internal: Ra $\mu\text{m} \leq 0.8$ (standard) fino a Ra $\mu\text{m} \leq 0.4$ electropolished and passivated (optional) External: Ra $\mu\text{m} \leq 3.2$ (standard) fino a Ra $\mu\text{m} \leq 0.4$ electropolished and passivated (optional)
End connection options	WELDING: DIN 11850 / ASME BPE TRI-CLAMP: ASME BPE
Temperature range	-40°C/+150°C (Standard). Fino a +220°C (optional)
Operating pressure	PN16 (standard). Further operating pressures on request
Media	Liquid, Gas, Steam
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: O-Ring / Surface roughness / 3-A / ATEX / PED / EC 1935/2004

All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

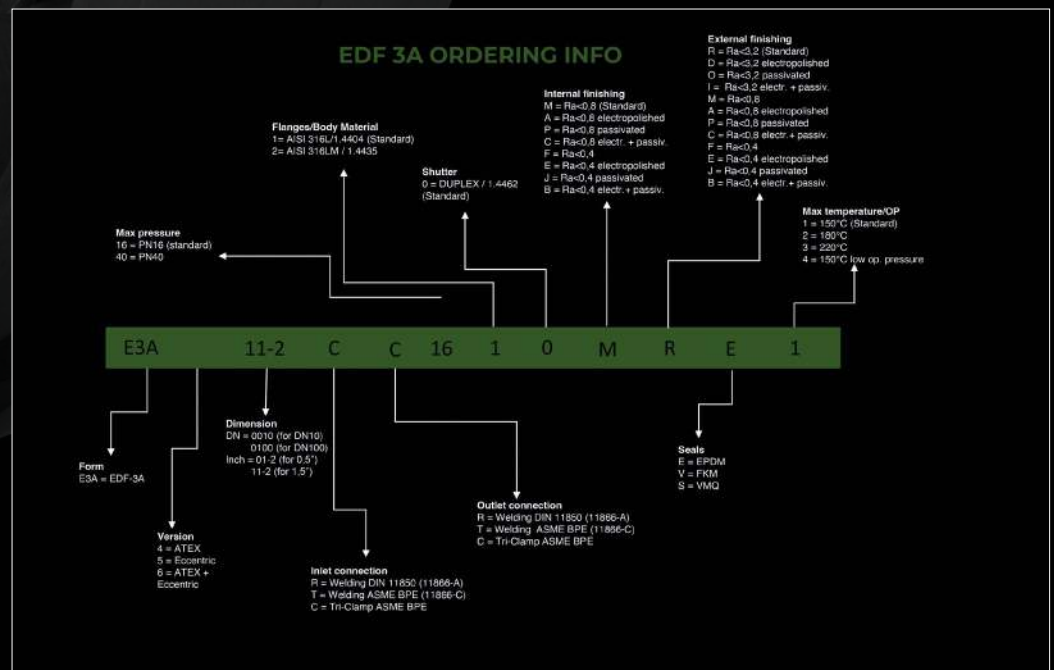
INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	30/50 mbar
VERTICAL lines	Top to bottom	27/45 mbar
VERTICAL lines	Bottom to top	33/55 mbar

Graph reading applies to water at 20° C (68°F) installed in horizontal pipes



PRESSURE DROP CHART

Customizable materials, finishings and further configurations available on request



Valve YEV



YEV: the simplest patented non-return valve in the entire Ygros range, but it does not lose its hygienic and reliable characteristics. A smart solution for all hygienic applications.

Resistant up to **220°C**.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

Applications

Food & Beverage

BENEFITS AT A GLANCE

Maximum hygiene:

Only the shutter comes into contact with the product. There are no springs, discs or other components which could contaminate it.

Safe closing:

ensured by patented magnetic principle

Any installation position possible:

it can be installed in horizontal, vertical up and down positions.

Energy saving:

its innovative working principle and design allow for a smooth flow, minimising pressure drop.

Laminar flow:

No turbulence

Maintenance:

Free

Longer valve life:

Thanks to high chemical resistance of the materials

YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance, because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

Product contact materials	Body & Flanges: Stainless steel 1.4404 (AISI 316L) Shutter: (Duplex) – 1.4410 (F53)
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, VMQ (Silicone), FKM (Viton)
Surface finishes	Internal: Ra $\mu\text{m} \leq 0.8$ External: Ra $\mu\text{m} \leq 3.2$
End connection options	WELDING: DIN 11850; ASME BPE TRI-CLAMP: ASME BPE
Temperature range	-20°C/+150°C
Operating pressure	PN16 (standard).
Media	Food & Beverage, Liquid
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: O-Ring / Surface roughness / EC 1935/2004 /3A

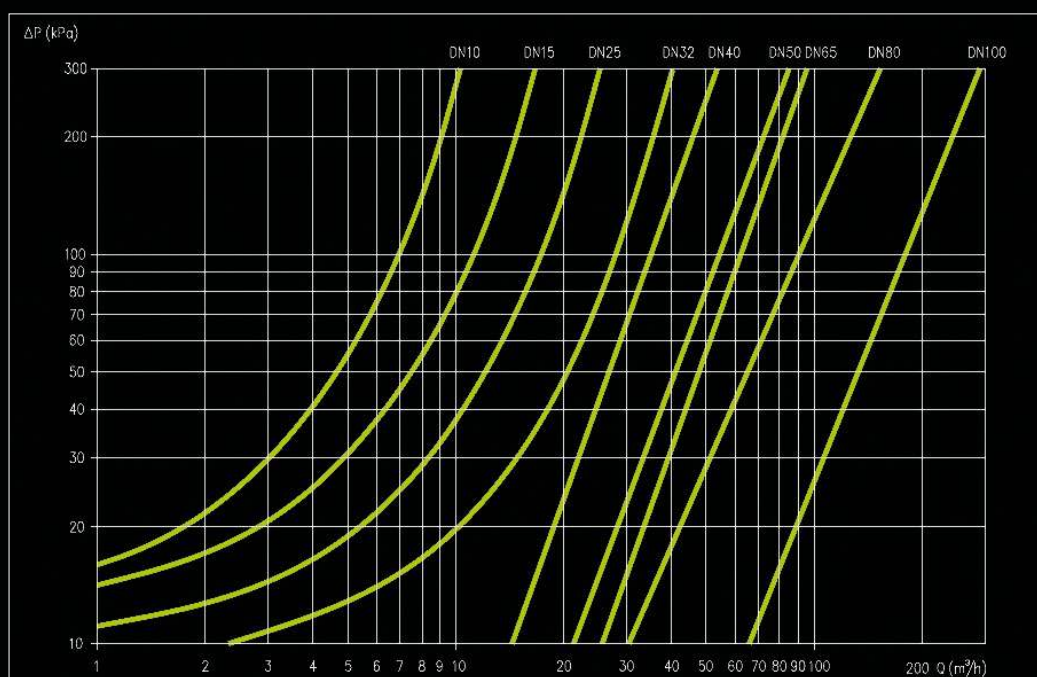
All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	30/50 mbar
VERTICAL lines	Top to bottom	27/45 mbar
VERTICAL lines	Bottom to top	33/55 mbar

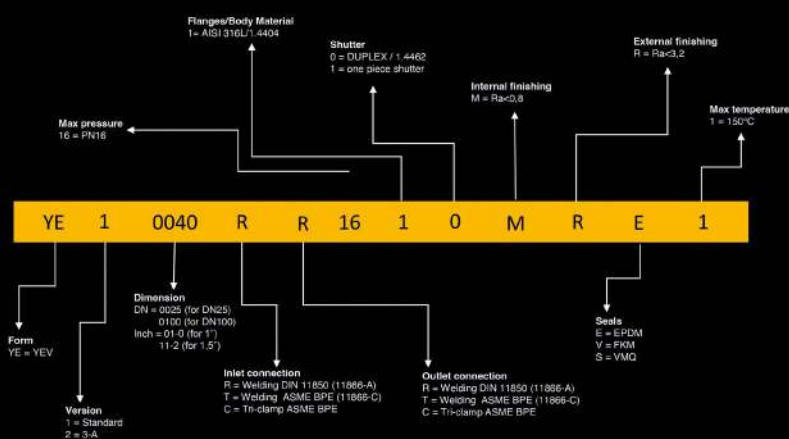
Graph reading applies to water at 20° C (68°F) installed in horizontal pipes

PRESSURE DROP CHART



Customizable materials, finishings and further configurations available on request

YEV ORDERING INFO



Valve YSV



YSV: The extractable valve. Thanks to its specially developed design, it is the suitable solution for plants which require periodic maintenance.

Resistant up to **150°C**.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

Applications

Dairy
Cosmetics
Food & Beverage

BENEFITS AT A GLANCE

Maximum hygiene:

Only the shutter comes into contact with the product. There are no springs, discs or other components which could contaminate it, this means no contamination and no stagnation point

Safe closing:

ensured by patented magnetic principle

Any installation position possible:

it can be installed in horizontal, vertical up and down positions.

Energy saving:

its innovative working principle and design allow for a smooth flow, minimising pressure drop.

Laminar flow:

No turbulence

Maintenance:

Free

Longer valve life:

Thanks to high chemical resistance of the materials

YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring-loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

Product contact materials	Body & Flanges: Stainless steel 1.4404 (AISI 316L) Shutter: (Duplex) – 1.4410 (F53)
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, VMQ (Silicone), FKM (Viton), PTFE, FEP, HNBR, NBR
Surface finishes	Internal: Ra $\mu\text{m} \leq 0.8$ External: Ra $\mu\text{m} \leq 3.2$
End connection options	WELDING: DIN 11850; ASME BPE TRI-CLAMP: ASME BPE
Temperature range	-20°C/+150°C
Operating pressure	PN16 (standard).
Media	Food & Beverage, Liquid
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: O-Ring / Surface roughness / EC 1935/2004 /3A

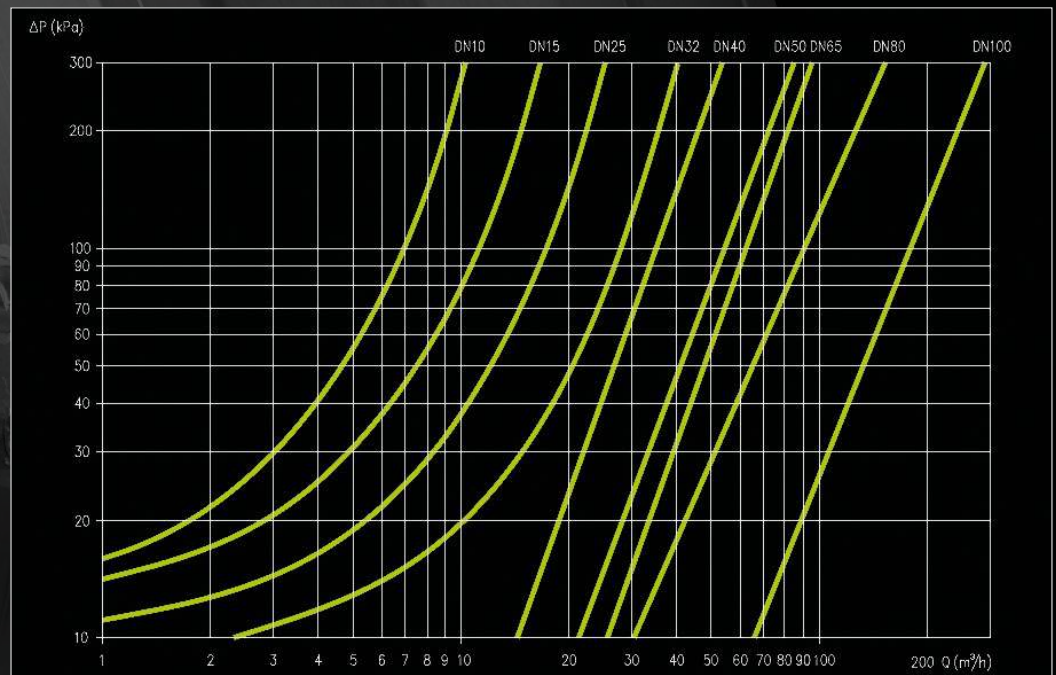
All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	30/50 mbar
VERTICAL lines	Top to bottom	27/45 mbar
VERTICAL lines	Bottom to top	33/55 mbar

Graph reading applies to water at 20° C (68°F) installed in horizontal pipes

PRESSURE DROP CHART



YSV ORDERING INFO



Customizable materials, finishings and further configurations available on request

Valve PHARMABALL



PHARMABALL: The high purity evolution of Ygros. Unique hygienic design, finish and materials. This check valve is suitable for all installation positions. Ideal for fluids, steam and high viscosity products.

Resistant up to **150°C**.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

Applications

Pharmaceutical
Cosmetics

BENEFITS AT A GLANCE

Maximum hygiene:

Only the shutter comes into contact with the product. No stagnation points, no springs or other intermediate components which could contaminate it. High-quality surface finishes and materials such as 1.4435 (AISI 316 LM ferrite <1%)

Safe closing:

ensured by patented magnetic principle

Any installation position possible:

it can be installed in horizontal, vertical up and down positions.

Energy saving:

its innovative working principle and design allow for a smooth flow, minimising pressure drop.

Laminar flow:

No turbulence

Maintenance:

Free

Extra high chemical resistance and longer valve life:

thanks particularly resistant materials such as 1.4435 (body and flange) and PVDF (shutter).

YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring-loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

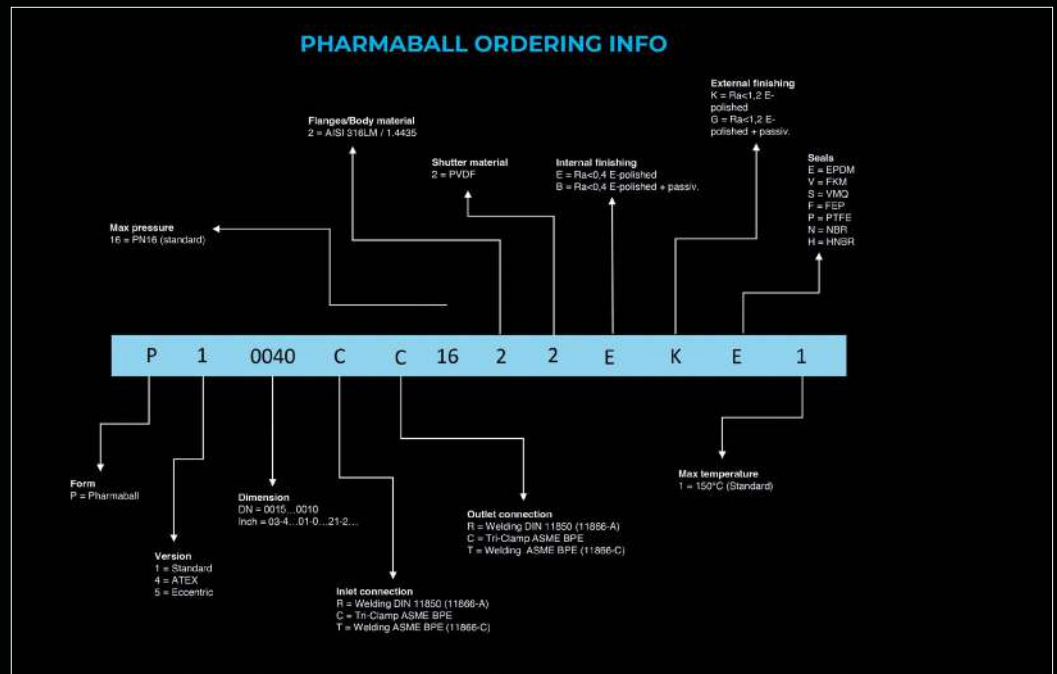
Product contact materials	Body & Flanges: Stainless steel 1.4404 (AISI 316L) Ball: PVDF
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, NBR, HNBR, VMQ (Silicone), FKM (Viton), FEP, PTFE
Surface finishes	Internal: Ra $\mu\text{m} \leq 0.4$ (electropolished) Passivation on request (optional) External: Ra $\mu\text{m} \leq 1.2$ (electropolished) Passivation on request (optional)
End connection options	WELDING DIN 11850 (DIN 11866 Reihe A); ASME BPE (DIN 11866 Reihe C) TRI-CLAMP: ASME-BPE
Temperature range	-40°C/+150°C
Operating pressure	PN16 (standard).
Media	Fluids, steam and high viscosity products
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: Seals and PVDF-Ball (USP class VI) / Surface roughness / EC 1935/2004

All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	20/40 mbar
VERTICAL lines	Top to bottom	30/50 mbar

Customizable materials, finishings and further configurations available on request



Valve AGGROBALL



AGGROBALL: Specifically designed for handling aggressive acids and fluids. It is a highly long-lasting solution, suitable for the most critical applications in the chemical industry.

Resistant up to **150°C**.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

Applications

Chemical

BENEFITS AT A GLANCE

Maximum hygiene:

Only the shutter comes into contact with the product. There are no springs, discs or other components which could contaminate it, this means no contamination and no stagnation point.

Safe closing:

ensured by patented magnetic principle

Any installation position possible:

it can be installed in horizontal, vertical up and down positions.

Energy saving:

its innovative working principle and design allow for a smooth flow, minimising pressure drop.

Laminar flow:

No turbulence

Maintenance:

Free

Longer valve life:

Thanks to the high chemical resistance of the materials.

YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring-loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

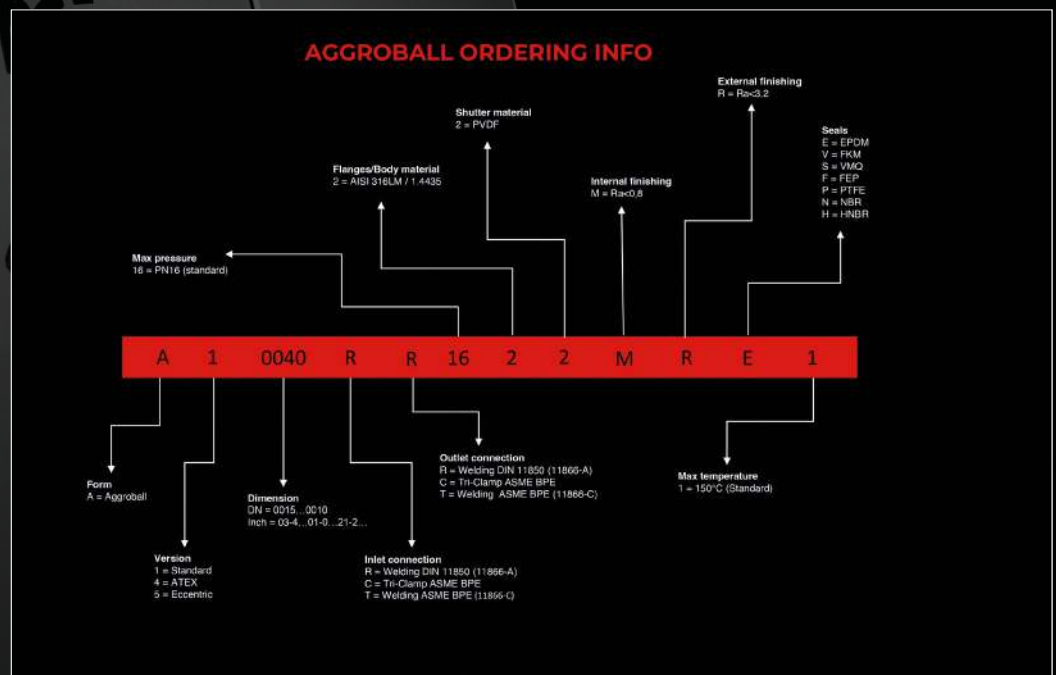
Product contact materials	Body & Flanges: Stainless steel 1.4435 (AISI 316LM), max <1% ferrite Ball: PVDF
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, NBR, HNBR, VMQ (Silicone), FKM (Viton), FEP, PTFE
Surface finishes	Internal: Ra $\mu\text{m} \leq 0.8$ External: Ra $\mu\text{m} \leq 3.2$
End connection options	WELDING: DIN 11850 (DIN 11866 Reihe A); ASME BPE (DIN 11866 Reihe C) TRI-CLAMP: ASME-BPE
Temperature range	-40°C/+150°C
Operating pressure	PN16 (standard).
Media	Aggressive fluids and acids
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: Seals and PVDF-Ball (USP class VI) / Surface roughness / EC 1935/2004

All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	20/40 mbar
VERTICAL lines	Top to bottom	30/50 mbar

Customizable materials, finishings and further configurations available on request



Valve WAFER



WAFER: A smart solution for applications in vacuum, gas and water treatment industries. Suitable for horizontal, vertical up and down installation.

Resists up to **220°C**
For fluid gases and steam.

No more springs that can break or misfire
No flow obstruction components
No stagnation points

BENEFITS AT A GLANCE

No chatter:

This innovative design principle is particularly advantageous for systems in which the fluid is compressible (gas) or is handled at low pressure. Ygros WAFER valve is kept open with a minimal pressure difference.

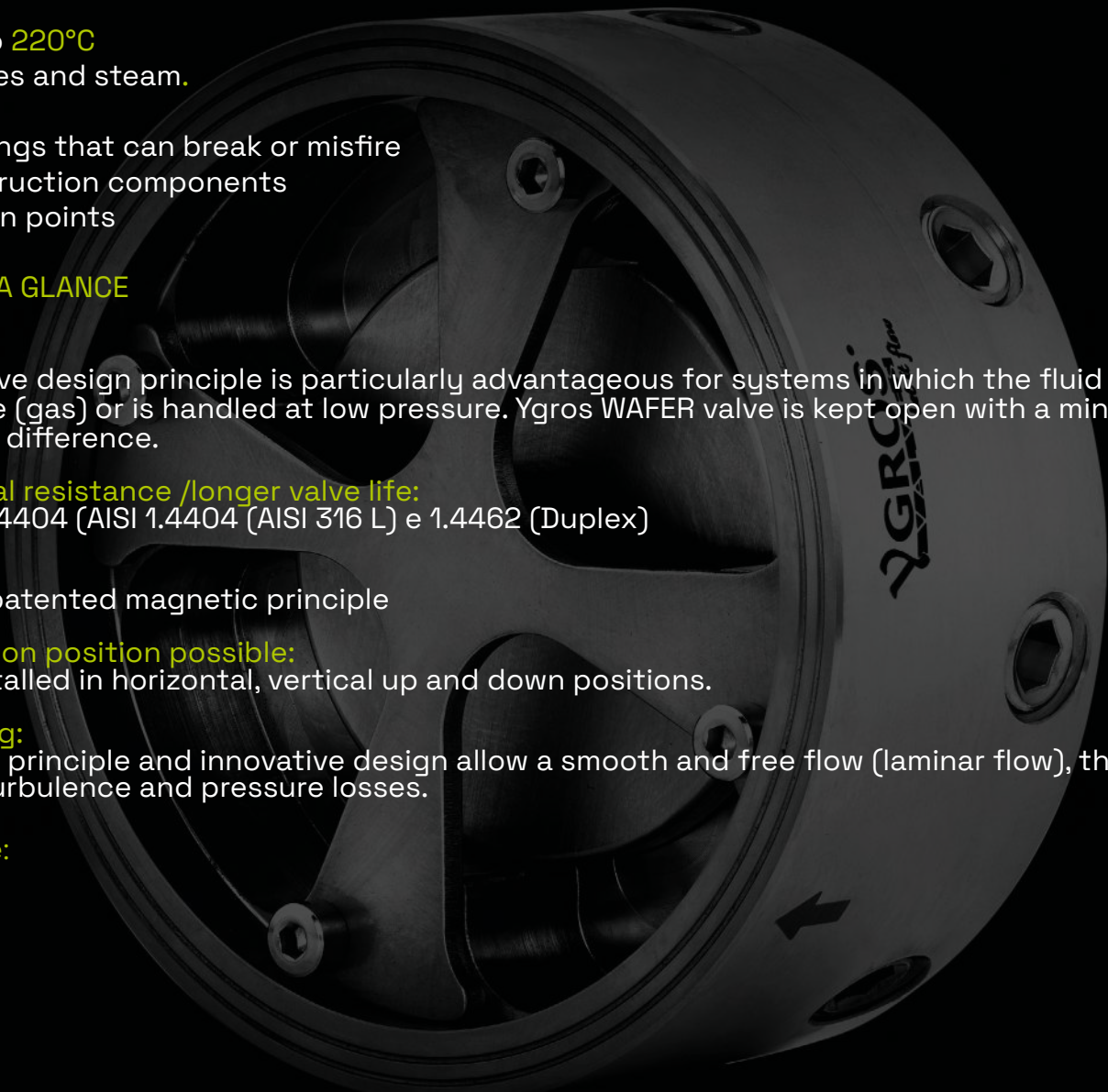
High chemical resistance /longer valve life:
due to the 1.4404 (AISI 1.4404 (AISI 316 L) e 1.4462 (Duplex)

Safe closing:
ensured by patented magnetic principle

Any installation position possible:
it can be installed in horizontal, vertical up and down positions.

Energy saving:
its operating principle and innovative design allow a smooth and free flow (laminar flow), thus minimising turbulence and pressure losses.

Maintenance:
Free



YGROS MAGNETIC PRINCIPLE

The main operational difference between a spring loaded check valve and the innovative YGROS valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance, because the compressed spring pushes the shutter against the flow with considerable force.

The magnets built into the valve body keeps the shutter in a closed position. Ygros check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

TECHNICAL DATA

Product contact materials	Body & Flanges: Stainless steel 1.4404 (AISI 316L) Shutter: 1.4462 (Duplex)
Non product contact materials	Magnet: Neodymium
Seals material options	EPDM, VMQ (Silicone), FKM (Viton)
Surface finishes	Internal: Ra $\mu\text{m} \leq 1.6$ (standard) External: Ra $\mu\text{m} \leq 3.2$ (standard)
End connection options	WELDING: DIN 11850; ASME BPE TRI-CLAMP: ASME BPE
Temperature range	-40°C/+150°C (Standard). Fino a +220°C (optional)
Operating pressure	PN6, 10, 16, 25, 40
Media	Liquid, Gas, Steam
Certifications (on request)	MATERIAL: EN10204:2005 – 3.1 / FDA: O-Ring / Surface roughness / ATEX / EC 1935/2004

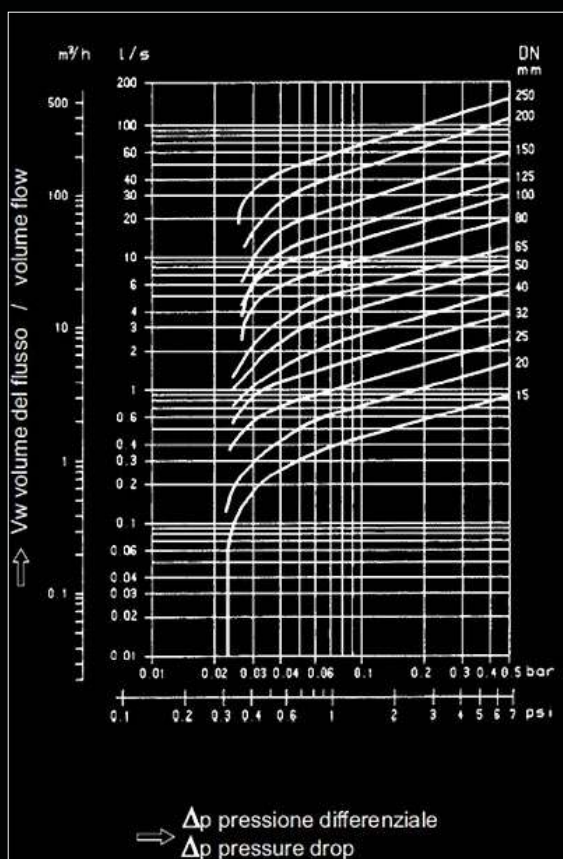
All product contact materials and seals are fully traceable

Once opened, the required pressure to keep the shutter fully open is about 10 mbar.

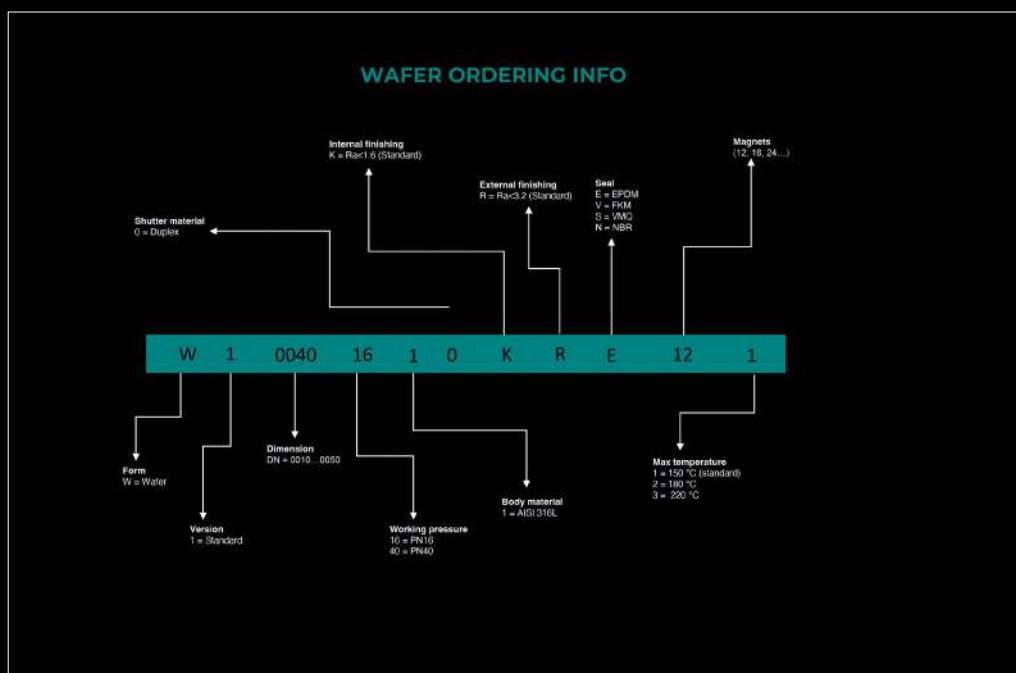
INSTALLATION	FLOW DIRECTION	OPENING PRESSURE
HORIZONTAL lines	—————	10/30 mbar
VERTICAL lines	Top to bottom	7/27 mbar
VERTICAL lines	Bottom to top	13/33 mbar

PRESSURE DROP CHART

Graph reading applies to water at 20° C (68°F) installed in horizontal pipes



Customizable materials, finishings and further configurations available on request



Through certifications, we guarantee our customers the fundamental safety and quality requirements of our valves.



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YGROS
VALVES
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