

## **HOSE PUMPS**

2023 |



>> All about your flow

www.tapflo.com

## **New definition of the Hose Pump**

Solution for abrasive, corrosive and viscous liquids with particles











Certificates may vary depending on the material execution of a particular product.

### **PT** - High pressure (up to 15 bar)

- capacity 0 60 m<sup>3</sup>/h **>>>**
- **>>** shoe design
- **>>** lubricant type: glycerin FDA
- **>>>** housing material: nodular cast iron
- 15 sizes available
- horizontal and vertical gear motor position

**Applications:** paint, waste water treatment, food, paper mills, chemical, biogas, recycling, mining, building



### **PTL** - Low pressure (up to 4 bar)

- capacity up to 5 m<sup>3</sup>/h
- **>>>** roller design
- **>>** lubricant type: silicone grease (food approved)
- **>>** housing material: aluminium
- 6 sizes available
- horizontal and vertical gear motor position

**Applications:** pharmaceutical, water treatment, food & beverage, cosmetics, chemical



### **CleanPRO** - Pioneer Cleaning Technology (up to 10 bar)

- capacity up to 12 m<sup>3</sup>/h
- special Clean In Place shoe design
- lubricant type: glycerin FDA
- housing material: nodular cast iron
- 2 sizes available

**Applications:** food & beverage, pharmaceutical, cosmetics



Product images are for illustrative purposes only and may differ from the actual product.

### **Features & Benefits**



#### **Pumping challenging liquids**

Hose pumps are suitable for efficiently pumping highly abrasive, corrosive, and viscous liquids containing particles.



#### Ease maintenance, reduced downtime

Hassle-free maintenance and minimal downtime due to few components and no seals required.



#### **Easy operation**

User-friendly operation without the need for specialized personnel.



#### **Cost-effective solution**

Total Cost of Ownership (TCO) for economical pumping solutions.



#### **Turbulence-free performance**

Smooth and gentle pumping even with highly abrasive or sensitive liquids, minimizing wear and ensuring optimal operations.



#### **Extensive configuration options**

The pump connection offers a diverse range of types and orientations.



#### **Self-priming**

Efficient self-priming with superior suction capacity up to -0.9 bar.



#### Handling high viscosity

Reliable performance with the ability to pump liquids with viscosities up to 100,000cP.



#### **Reversible operation**

Versatile functionality for various applications with an easy change of rotation direction.



#### Adjustable flow and precise dosing

Flexibility in flow rates and precise dosing accuracy of approximately ±5% by adjusting the speed, such as with a frequency converter.



#### Safe to run dry

Safe to run dry, eliminating the need for monitoring and ensuring ease of use and peace of mind.



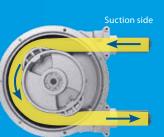


## **Working principle**









#### Discharge side

#### PT HIGH PRESSURE HOSE PUMPS HAVE A SHOE DESIGN.

The pump generates friction and heat, while compressing the hose, therefore constant lubrication with glycerin is needed to dissipate the heat. This design allows the pump to operate within higher discharge pressure up to 15 bar, avoiding any blockage and optimising therefore the lifetime of the hose.

#### PTL LOW PRESSURE HOSE PUMPS HAVE A ROLLER DESIGN.

This design is effective for discharge pressure up to 4 bar. The friction on the hose with rollers is lower, hence the hose needs just to be lubricated by silicone grease. The rollers can be adjusted, either by brackets or by shims depending on the pump size.

Advanced hose design technology

At Tapflo we have focused on reducing hose wear, and our dedicated engineers are fully immersed in this important mission.

As a result, our newly upgraded Tapflo hoses outperform the competition, **lasting approximately 30% longer than any other hoses in the market.** 

New Tapflo hoses are characterized by a non-machined external surface, which revolutionizes the lubrication of our reinforced hoses. This feature ensures a superior grip for the lubricant, reducing friction and significantly lowering heat generation.

**The outcome?** An unprecedented extension in hose lifetime that sets our products apart.



### **Features & Benefits**



#### **Superior quality assurance**

Experience optimised quality with Tapflo hoses. Hoses are exclusively European made, crafted with the finest quality compounds, and manufactured according to the highest industry standards.



#### **Variety of materials & sizes**

Tapflo offers an extensive range of hose materials to cater to diverse applications. Wide selection of options, accommodating inner diameters ranging from 5 mm to 125 mm.



#### **Unparalleled stock availability**

With the largest available stock in the industry, Tapflo ensures prompt delivery worldwide. Benefit from our extensive inventory of over 7000 hoses directly accessible from our stock.



#### **Elevate your pump performance**

Upgrade your pump with confidence using Tapflo's high-quality hoses. Designed not only for Tapflo pumps but also compatible with pumps from other manufacturers, our hoses enhance performance and reliability.

### **Available hoses materials**

Tapflo goes the extra mile to provide transparency and clarity. Our hoses feature **clear codification and branding labels, guaranteeing that you are using an authentic Tapflo product.** 

Hose	ATEX	Industry								
		Water treatment	Ceramic	Mining & quarries	Building & construction	Chemical	Food & beverage	Pharmaceutical & cosmetics	Paint, pulp & paper	Agriculture & biogas
Industrial										
NR	•	•	•	•	•	•			•	•
NBR		•		•		•				•
EPDM	•	•	•	•	•	•		•	•	•
CSM		•		•		•				•
Food Grade										
NR FDA							•	•	•	
NBR FDA							•	•		
EPDM FDA							•	•		

## PT High pressure hose pumps



#### Materials, data and limits

Technical data	Specification			
Casing material	Nodular cast iron			
Hose material (wetted)	Industrial reinforced - NR (std), NBR, EPDM, CSM ATEX reinforced - NR, EPDM Food grade reinforced - NR FDA, NBR FDA, EPDM FDA			
Insert material (wetted)	AISI 316L (std), PTFE, PP			
Connection type	EN1092-1 Flange (std), ANSI flange, BSP/NPT thread, Camlock, hose tail, DIN 32676 clamp, DIN 11851 thread, SMS 3017 clamp			
Motor*	IEC standard, 3-phase, 4-pole, 50/60 Hz, IP55+PTC			
Max. capacity	60 m³/h			
Max. viscosity	100 000 cP***			
Max. liquid temp.	80 °C**			
Max. discharge pressure	15 bar			
Max. suction lift	- 0.9 bar			

- Other motor options available on request
- \*\* At a room temperature of 20°C. Furthermore, it depends on the pumped fluid and on the hose material

  \*\*\* Maximum value may vary depending on pump size and installation

- >> capacity 0 60 m<sup>3</sup>/h
- >> shoe design
- >> lubricant type: glycerine FDA
- >> housing material: nodular cast iron
- >> 15 sizes available
- >> horizontal and vertical gear motor position

Applications: paint, waste water treatment, food, paper mills, chemical, biogas, recycling, mining, building



Pump size	Motor power [kW]	Pump speed [rpm]		
PT 5	0.25	11, 15, 19, 23		
	0.25	11, 15, 19, 23		
PT 10	0.37	15, 23, 25, 35		
	0.55	43, 47, 61		
PT 15, PT 20	0.37	15, 23, 25, 35		
P1 13, P1 20	0.55	43, 47, 61		
PT 25	1.5	23, 30, 35, 44, 50		
F1 23	2.2	60		
PT 32, PT 38	1.5	20, 25, 31		
F1 32, F1 30	2.2	34, 44, 50, 61		
	2.2	25, 31, 33, 41		
PT 40	3	47		
	4	54, 63		
PT 51, PT 60	5.5	26		
F1 51, F1 00	7.5	20, 33, 38, 47, 55, 60		
	7.5	20		
PT 65, PT 80, PT 80L	11	20, 26, 32, 38		
	15	22,5, 26, 32, 38		
	15	18, 24		
PT 100	18.5	18		
	22	24, 31		
	22	20		
PT 125	30	25, 32		
	37	20, 32, 38		

<sup>\*</sup> Other gear motor speed options available on request

# PT Optimised pump design



#### **Convenient flange brackets**

The brackets feature a cut out, facilitating easy hose removal and pump maintenance.

#### **Enhanced shoe design**

Smoothing out the shoe contours has a significant influence on extending the lifetime of the hose.

#### **Double lip seal**

Our double lip seal allows for vacuum system adjustment without the need to remove the pump.

#### **Optimised compact design**

Benefit a smaller footprint with our optimised pump design.

#### **Effortless lubricant drainage**

The pump feet are designed to provide unobstructed access for convenient lubricant drainage.

#### **Integrated sensor compatibility**

The pump casing is pre-disposed to accommodate a wide range of sensors, including leakage sensors and revolution counters, providing enhanced functionality and monitoring capabilities.

#### Leakage channel for added protection

The pump casing features a leakage channel that prevents liquid from entering the gear motor in the event of a casing sealing failure.



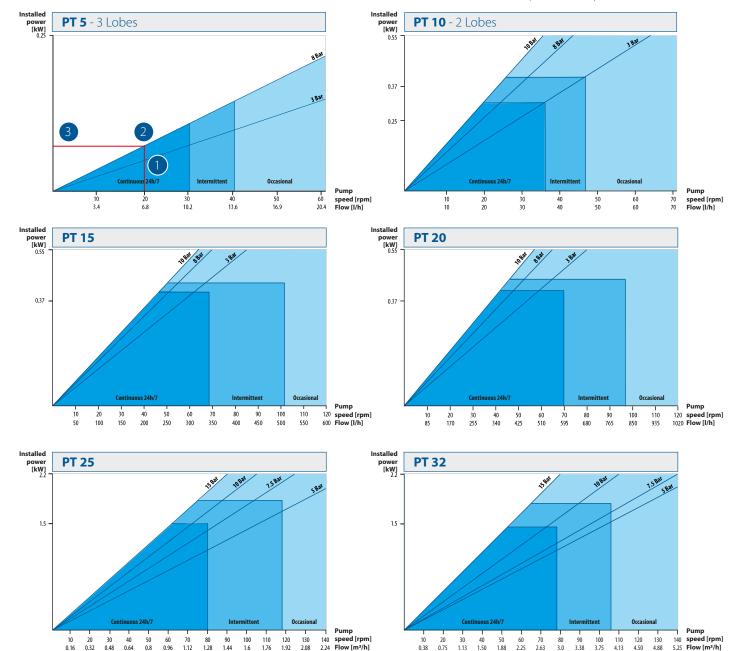
#### **Performance curves**

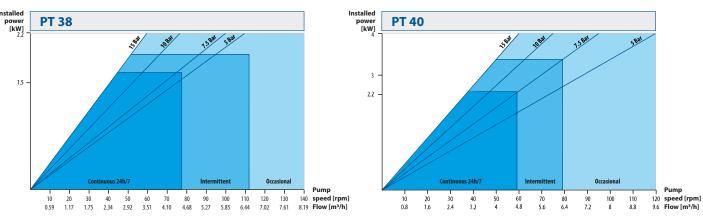
The performance curves are based on water. ( $\rho = 1000 \text{ kg/m}^3$ ,  $T = 20 \,^{\circ}\text{C}$ ) Other circumstances might change the performance. Intermittent duty = 1 hour stop for every 2 hours of operation.

Occasional duty = not more than 1 hour per day.

#### Example see points and the red line

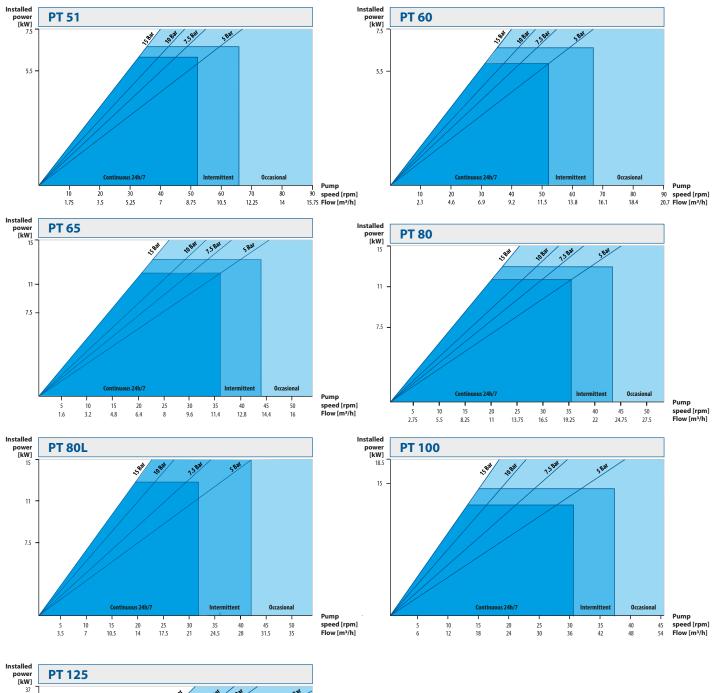
- 1. Select the required flow (6,8 l/h).
- Thanks to this you will get the required pump speed (20 rpm).
- 2. Select your discharge pressure (8 bar).
- 3. Move left to read electrical motor power consumption (0.12 kW).

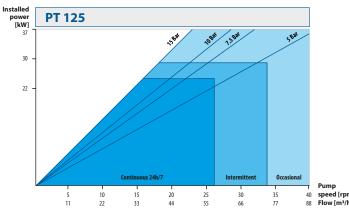




#### **Performance curves**

The performance curves are based on water. (p = 1000 kg/m³, T = 20 °C) Other circumstances might change the performance. Intermittent duty = 1 hour stop for every 2 hours of operation. Occasional duty = not more than 1 hour per day.





Changes reserved without notice

# PTL Low pressure hose pumps



- >> capacity up to 5 m<sup>3</sup>/h
- >> roller design
- >> lubricant type: silicone grease (food approved)
- >> housing material: aluminium
- >> 6 sizes available
- >> horizontal and vertical gear motor position

**Applications:** pharmaceutical, water treatment food & beverage, cosmetics, chemical



#### Materials, data and limits

Technical data	Specification			
Casing material	Aluminium			
Hose material (wetted)	Industrial reinforced - NR (std), NBR, EPDM, CSM ATEX reinforced - NR, EPDM Food grade reinforced - NR FDA, NBR FDA, EPDM FDA Extruded hose - Silicone			
Insert material (wetted)	AISI 316L (std), PTFE, PE AST, PP			
Connection type	Hose tail (std), EN1092-1 Flange, ANSI flange, BSP/NPT thread, Camlock, DIN 32676 clamp, DIN 11851 thread, SMS 3017 clamp			
Motor*	IEC standard, 3-phase, 4-pole, 50/60 Hz, IP55+PTC			
Max. capacity	5 m <sup>3</sup> /h			
Max. viscosity	12 000 cP***			
Max. liquid temp.	80 °C**			
Max. discharge pressure	4 bar (with reinforced hose)			
Max. suction lift	- 0.9 bar			

<sup>\*</sup> Other motor options available on request

#### Available vertical gear motors\*

Pump size	Motor power [kW]	Pump speed [rpm]	
PTL 9, PTL 13	0.18	18, 24, 28, 35, 47, 56, 69, 93, 139, 187	
PTL 17	0.18	14, 18, 24, 28, 35, 47, 56, 69, 93, 139	
PIL I/	0.25	187	
PTL 25	0.55	37, 62, 86, 138	
PTL 30	1.1	40	
PIL 30	1.5	49, 58, 86, 104	
PTL 45	1.5	40, 58	
F1L 45	2.2	72, 93	

<sup>\*</sup> Other gear motor speed options available on request

<sup>\*\*</sup> At a room temperature of 20°C. Furthermore, it depends on the pumped fluid and on the hose material

<sup>\*\*\*</sup> Maximum value may vary depending on pump size and installation

# PTL Optimised pump design



## Space-efficient vertical gear motor

Experience a compact pump installation with our standard vertical gear motor, saving valuable space.

#### **Sealed pump casing**

Sealed pump casing prevents liquid spillage in the event of a hose rupture. Each casing undergoes rigorous factory testing to ensure reliability.

## Advanced roller setting technology

Benefit from improved roller setting technology, allowing for precise adjustments and optimal performance.

#### **Optimised compact design**

Benefit a smaller footprint with our optimised pump design.

#### Integrated sensor compatibility

The pump casing is pre-disposed to accommodate a wide range of sensors, including leakage sensors and revolution counters, providing enhanced functionality and monitoring capabilities.

#### **Performance curves**

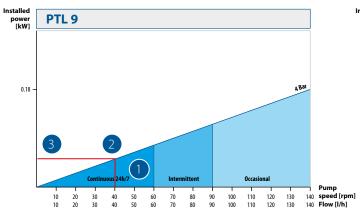
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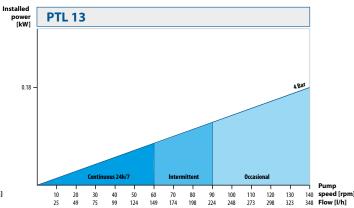
#### Example see points and the red line

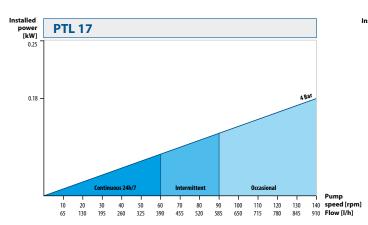
1. Select the required flow (40 l/h).

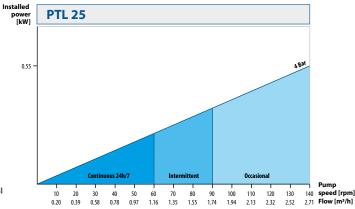
Thanks to this you will get the required pump speed (40 rpm).

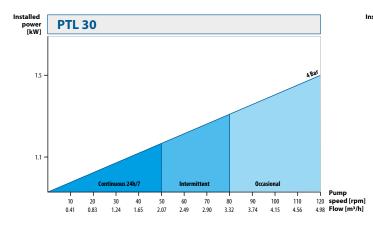
- 2. Select your discharge pressure (4 bar).
- 3. Move left to read electrical motor power consumption (0.18 kW).

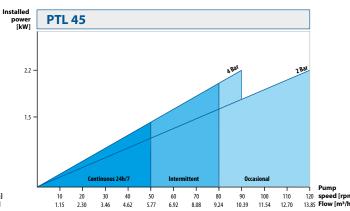












## **CleanPRO** - Pioneer Cleaning Technology



- >> capacity up to 12 m<sup>3</sup>/h
- >> special Clean In Place shoe design
- >> lubricant type: glycerin FDA
- >> housing material: nodular cast iron
- 2 sizes available

**Applications:** food & beverage, pharmaceutical, cosmetics

#### Materials, data and limits

Technical data	Specification		
Casing material	Nodular cast iron		
Hose material (wetted)	NR FDA (std), NBR FDA, EPDM FDA		
Insert material (wetted)	AISI 316L		
Connection type	DIN 11851 thread, SMS 3017 clamp, DIN 32676 clamp		
Motor*	IEC standard, 3-phase, 4-pole, 50/60 Hz, IP55+PTC		
Max. capacity	12 m <sup>3</sup> /h		
Max. liquid temp.	80 °C**		
Max. discharge pressure	10 bar		
Max. suction lift	- 0.9 bar		

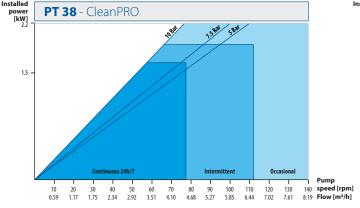
#### Available horizontal gear motors\*

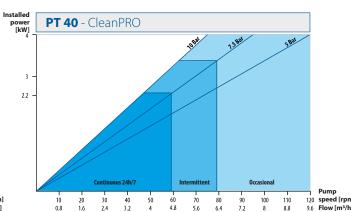
Pump size	Motor power [kW]	Pump speed [rpm]
DT 20	1.5	20, 25, 31
PT 38	2.2	34, 44, 50, 61
	2.2	25, 31, 33, 41
PT 40	3	47
	4	54, 63

<sup>\*</sup> Other gear motor speed options available on request

#### **Performance curves**

The performance curves are based on water. ( $\rho = 1000 \text{ kg/m}^3$ ,  $T = 20 ^{\circ}\text{C}$ ), Other circumstances might change the performance. Intermittent duty = 1 hour stop for every 2 hours of operation. Occasional duty = not more than 1 hour per day.





<sup>\*</sup> Other motor options available on request

<sup>\*\*</sup> At a room temperature of 20°C. Furthermore, it depends on the pumped fluid and on the hose material

## CleanPRO Optimised pump design

Our **CleanPRO** pump utilizes an advanced, **innovative cleaning technology** design to optimise your production process.

This technology helps, by retracting the shoes automatically from the hose, to maintain the inner surface of the hose clean during **Clean in Place (CIP)**.

As a result, it optimises the hose's lifetime, minimizes production downtime, and keeps maintenance costs to a minimum.





Experience the reliability and perfection of CIP (Clean in Place) processes for hose pumps with our innovative and advanced CleanPRO pump, featuring PIONEER CLEANING TECHNOLOGY.

Our smart design eliminates hose compression during the cleaning process by reversing the pump's direction and automatically retracting the shoes. This optimises the lifespan of the hose and pump, reducing production downtime and keeping maintenance costs low.

### **Features & Benefits**



#### Safe to run dry

Safe to run dry, eliminating the need for monitoring and ensuring ease of use and peace of mind.



#### Does not damage the pumped fluid

The pump's operating principle guarantees gentle and controlled fluid transfer.



#### Ideal for food and beverages

Hoses are FDA and EC1935 certified, featuring sanitary clamp and thread connections.



#### Seal-less design

Our pump eliminates the need for seals or valves.



#### Few components, easy maintenance

With only the hose as a wear part and no valves, maintenance costs remain low.



#### **Minimal liquid contact**

Ensuring superior hygiene and effortless cleaning, only two parts come into contact with the fluid.

### **Accessories**



















#### **DPT Pulsation dampener**

The use of pulsation dampers in the discharge line guarantees a number of advantages, such as: significant reduction of discharge pulsations, vibrations and noise.

This solution protects not only the pump, but also the piping and instrumentation.

#### **Revolution counter (RC)**

The revolution counter allows to monitor the number of rotor revolutions.

This accessory can be equipped with a control cabinet. Based on the volume per revolution data, this allows to calculate and batch products according to customer needs.

Revolution counter can be also equipped with external digital display for easy monitoring of the pump speed and capacity.

#### Hose leak detector (HLD)

The rupture of the hose, which is a wear part, creates a leakage of the pumped liquid.

As a result, the level of the medium in the pump casing rises and is detected by a capacitive sensor, which immediately stops the pump.



#### Vacuum system

The vacuum system is utilized in applications where viscous products are handled (above 10 000 cP) or with a negative suction lift.

Because of the liquid viscosity the hose does not return to initial shape fast enough and the capacity decreases.

By installing a vacuum system, efficiency drops are eliminated, as the pressure inside the pump is reduced and the hose is expanding quicker.



### **Build-in inverter (top or side)**

Built-in frequency inverters are a solution for comfortable pump speed control. Allows easier exchange of the hose. The unit is equipped with a IP66 programmed frequency inverter and all necessary equipment such as wires and plugs.

The main advantage of this solution is that the inverter is mounted directly on the pump, which makes the whole unit compact and ready to use.



#### **Trolleys**

Trolleys are designed to enable mobility and ease of use, while maintaining proper pump stability.

Thanks to these new accessories, pumps can be easily transported and the most important, used in many applications and locations.

## **Special dedicated units**



PTL13 with external inverter + support



2 x PTL17 on a trolley with electrical control cabinet & external inverters



PT40 with electrically driven vacuum system pump and lubricant circulation system



PT38 with control cabinet support

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for various industrial applications.

One thing did not change - we are still a family company.

#### Tapflo products and services are available worldwide.

Tapflo is represented by own Tapflo Group Companies and carefully selected distributors assuring highest Tapflo service quality for our customers' convenience.

AUSTRALIA | AUSTRIA | AZERBAIJAN | BAHRAIN | BELGIUM | BOSNIA | BRAZIL | BULGARIA | CANADA | CHILE | CHINA | COLOMBIA | CROATIA | CZECH REPUBLIC | DENMARK | ECUADOR | EGYPT | ESTONIA | FINLAND | FRANCE | GEORGIA | GERMANY | GREECE | HONG-KONG | HUNGARY | ICELAND | INDIA | INDONESIA | IRELAND | ISRAEL | ITALY | JAPAN | JORDAN | KAZAKHSTAN | KUWAIT | LATVIA | LIBYA | LITHUANIA | MACEDONIA | MALAYSIA | MEXICO | MONTENEGRO | MOROCCO | NETHERLANDS | NEW ZEALAND | NORWAY | OMAN | PHILIPPINES | POLAND | PORTUGAL | QATAR | ROMANIA | SAUDI ARABIA | SERBIA | SINGAPORE | SLOVAKIA | SLOVENIA | SOUTH AFRICA | SOUTH KOREA | SPAIN | SWEDEN |

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