



**INDUSTRIAL PUMPS  
SINCE 1982**

**PRODUCTION PROGRAM**



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**Made in Italy**



# ABOUT US

PRODUCTION PROGRAM

## AN IDEAL

A clear idea in mind:  
to design **innovative high-tech pumps** with components and **materials capable of withstanding** even the most testing and aggressive conditions.  
**Easy-to-install, high performance pumps.**  
**Reliable, long-lasting operation.**

## MORE THAN 30 YEARS AT YOUR SERVICE

**Debem has been operating in the liquid transfer sector for more than 30 years.**

A pioneering business specialising in industrial pumps for highly corrosive and aggressive applications.

The entire company philosophy hinges on close **cooperation** with the **end user** and **customer feedback**, thus establishing a **highly-effective technological design and development system** for products and services that has gained the approval of an increasing number of leading players in various sectors.



## WAREHOUSE AND ASSEMBLY

A **management system** that **controls** the **minimum stock** of every **component** and **preassembled part** of all pumps in the catalogue means that when receiving an order Debem can advise **product availability** in real time with **fast assembly** and certain delivery times.

[www.debem.it](http://www.debem.it)



## THE QUALITY MANAGEMENT SYSTEM

The **certified Quality Management System** is the basic tool used by Management in establishing the **Corporate Quality Policy**, aimed at **complete Customer satisfaction** and demonstrable ability to provide products/services that meet Customer and applicable regulatory requirements.

The quality management system is certified to **UNI EN ISO 9001** and for DEBEM represents a point of both arrival and departure:

**ARRIVAL:** because the corporate quality system is an organisational and management tool developed in-house.

**DEPARTURE:** because designing the quality system has stimulated a phase of analysis that will lead to the establishment of new improvement and growth targets.



# CUBIC and BOXER



DIAPHRAGM PUMPS

## MAIN FEATURES:

**Available in PP, PVDF/ECTFE, ALUMINIUM and AISI 316 STAINLESS STEEL;**

**Use in potentially-explosive atmospheres**  
(ATEX zone 1-2 certification);

**Suitable for demanding applications** and high-humidity environments;

**Dry operation;**

**Dry self-priming;**

**Actuated using non-lubricated air;**

**Stall-prevention pneumatic circuit;**

**Adjustable flow rate and head;**

**Fine tuning of motor speed at constant pressure;**

**Twin-manifold option** (two suction and two delivery);

**Bench or ceiling installation;**

**Three suction and delivery positions;**

**User-friendly maintenance and parts replacement;**

**Excellent performance and value for money.**

## Max. operating temperature:

PP min +3°C/max +65°C

PVDF min +3°C/max +95°C

Aisi 316 min +3°C/max +95°C

Alu min +3°C/max +95°C

**CUBIC** mini diaphragm pumps, **BOXER** and **FOODBOXER** diaphragm pumps are characterized by exceptional performance, power and strength, making them ideal for pumping liquids with high apparent viscosity even if containing suspended solids.

The **stall-prevention** pneumatic system assures a safe pump running and it does **not need lubricated air**.

**Self-priming** dry capacity even with considerable suction head, **fine tuning of speed** without pressure loss and the **possibility of dry operation without suffering damage** mean that these pumps offer unrivalled versatility. In addition, the huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range. They are specifically designed for **demanding applications with high humidity or in potentially explosive atmospheres (ATEX certification)**.



## BOXER PLASTIC



II 2/2GD c IIB T135°C (zona 1)  
II 3/3GD c IIB T135°C (zona 2)

The plastic BOXER range is designed for the chemical industry's most demanding applications including highly-aggressive liquids and acids.

Materials:

Self-priming capacity:

Max. head:

Max. flow rate:

**PP - PVDF**  
**max 6m**  
**70m**  
**30 ÷ 900 l/min**



## BOXER METAL



II 2/2GD c IIB T135°C (zona 1)  
II 3/3GD c IIB T135°C (zona 2)

The metal BOXER range is designed for demanding applications throughout the paint sector and for solvent-based liquids.

Materials:

Self-priming capacity:

Max. head:

Max. flow rate:

**Alu - AISI 316**  
**max 6m**  
**70m**  
**30 ÷ 900 l/min**



## CUBIC PUMPS



II 2/2GD c IIB T135°C (zona 1)  
II 3/3GD c IIB T135°C (zona 2)

This compact range with reduced footprint can be used in banks where space is at a premium.

Materials:

Self-priming capacity:

Max. head:

Max. flow rate:

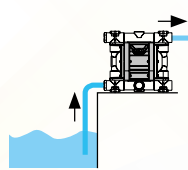
**PP - ECTFE**  
**max 3m**  
**70m**  
**5 ÷ 17 l/min**



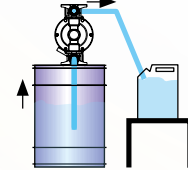
## INSTALLATION

The pumps **must be installed vertically** with special bolts on the feet or holes provided.

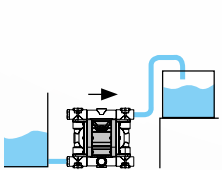
### Self-priming



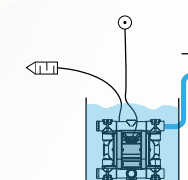
### Drum transfer



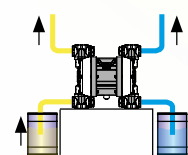
### Positive suction head



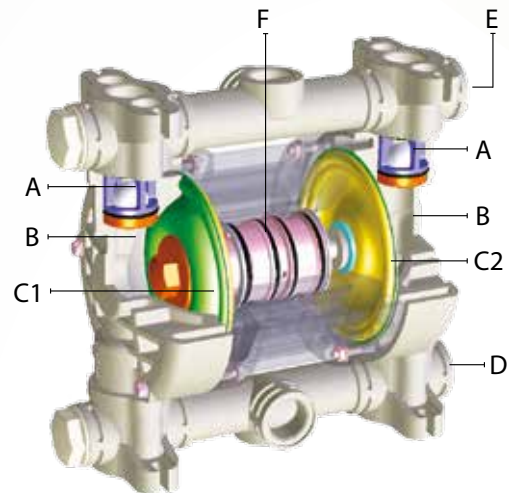
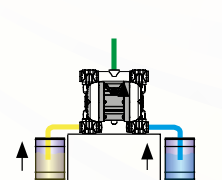
### Immersed



### Twin suction and delivery manifold



### Twin suction manifold



**A** = ball valves

**B** = pumping chamber

**C1** = product-side diaphragm

**C2** = air-side diaphragm

**D** = suction manifold

**E** = delivery manifold

**F** = pneumatic exchangers

**MAIN FEATURES:**

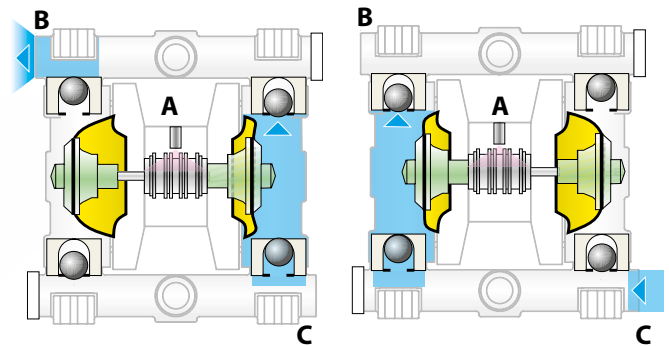
- Available in AISI 316 STAINLESS STEEL;**
- Use in potentially-explosive atmospheres** (ATEX zone 1-2 certification);
- Suitable for demanding applications** and high-humidity environments;
- Dry operation;**
- Dry self-priming;**
- Actuated using non-lubricated air;**
- Stall-prevention pneumatic circuit;**
- Adjustable flow rate and head;**
- Fine tuning of motor speed at constant pressure;**
- Twin-manifold option** (two suction and two delivery);
- Bench or ceiling installation;**
- Three suction and delivery positions;**
- User-friendly maintenance and parts replacement;**
- Excellent performance and value for money.**
- Max. operating temperature:**  
Aisi 316 min +3°C/max +95°C



Debem FDA Foodboxer pumps are made of electro-polished stainless steel, and are ideal for the food, cosmetics and beverage industries in compliance with FDA requirements. The parts in contact with the liquid are made exclusively of electro-polished AISI316 and PTFE FDA.

**HOW IT WORKS**

The compressed air introduced by the pneumatic exchanger (A) behind one of the two diaphragms generates compression and pushes the product into the delivery duct (B), at the same time the opposing diaphragm that is integral with the exchanger shaft creates a vacuum and intakes the fluid (C). Once the stroke has been completed, the pneumatic exchanger diverts the compressed air behind the opposing diaphragm and the cycle is reversed.



# SANIBOXER



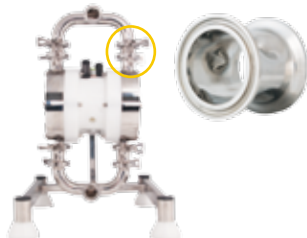
**3A certified, made with mechanically polished Aisi316, the SANIBOXER pump is designed for the Food-Processing, Cosmetic and Pharmaceutical industry.**

**APPLICATIONS**

The SANIBOXER pneumatic diaphragm pumps have been designed and built to pump liquid foodstuffs using materials that are compatible with the chemical substances used to clean and sanitize the pump.

The pump may be used at operating temperatures (temperature of the fluid + environmental temperature) compatible with the pump materials and in any case never exceeding 95°C..

**EASY-CLEAN VALVE Patent system**



**Aisi 316**  
mechanically polished  
**RA < 0,8µm**



**FAST EMPTYING SYSTEM**

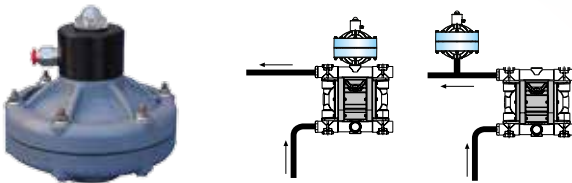


## MAIN FEATURES:

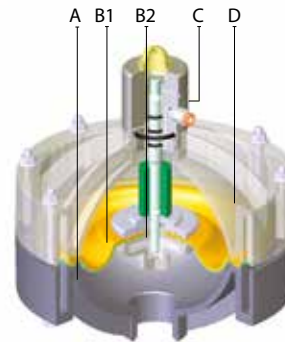
- Available in PP, PVDF, PPS-V, AISI 316, Alu
- Automatic dampening control;
- Suitable for demanding applications;
- Use in potentially-explosive atmospheres (ATEX certifications);
- Use in environments subject to high humidity;
- Actuated using non lubricated air ((2 ÷ 7 bar);
- Range of construction materials ensures correct fluid compatibility;
- User-friendly parts replacement and maintenance;
- Excellent performance and value for money.
- Max. operating temperature:**  
PP min +3°C/max +65°C  
PVDF min +3°C/max +95°C  
Aisi 316 min +3°C/max +95°C  
Alu min +3°C/max +95°C

## HOW IT WORKS

The compressed air entering the back-pressure chamber behind the diaphragm creates a pneumatic cushion that adjusts automatically to compensate the shock produced by the pressure pulse of the fluid generated by the pump.



**EQUAFLUX automatic diaphragm pulsation dampeners feature solid build and high performance.** They are fitted to the discharge line of diaphragm pumps in order to smooth pulsating flows and can be used with liquids having high apparent viscosity even if containing suspended solids of considerable size. EQUAFLUX dampeners **automatically adapt** to system conditions **without the need for manual adjustment** or calibration. The ability to minimise pulsations, vibrations and water hammer means that this component provides excellent protection and smooth system flow. The huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range. **Dampeners are also available for use in potentially explosive atmospheres (ATEX certification).**



- A = expansion opening
- B1 = air-side diaphragm
- B2 = fluid-side diaphragm
- C = automatic pneumatic valve
- D = compressed-air chamber

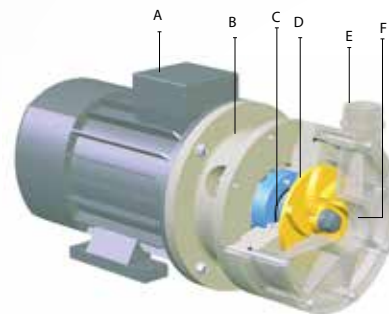
**Air supply:**  
**2 ÷ 7 bar**

# MB

## Main features:

- Available in polypropylene, PVDF;
- Positive suction head operation;
- Weldless;
- Mechanical bellows or lip seal;
- Usable even with extremely dirty liquids;
- Flow rates: from 6 to 75 m<sup>3</sup>/h;
- Head: up to 38 mt;
- Quick and easy maintenance;
- Inexpensive spares.
- Viscosity: up to 500 cps
- European voltage motors:  
IP55 - F Class - 2-pole - 50 Hz - three-phase  
single phase from 0,55 kw to 2,2 kw - 50/60 Hz
- Temp. max. di esercizio:  
PP min +3°C/max +65°C  
PVDF min +3°C/max +95°C

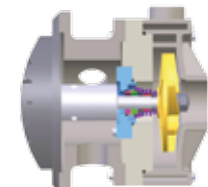
**Debem manufactured resin-encased horizontal centrifugal pumps** are pumps operated by a direct-drive motor (**max 3000 rpm**) for fast fluid transfer and/or drainage with **flow rates ranging from 6 to 75 m<sup>3</sup>/h**. Their special open-impeller design allows pumping even with very dirty liquids having **apparent viscosity up to 500 cps (at 20°C)** and small suspended solids. There are two versions available with different internal mechanical seal depending on use, **TL (lip seal)** and **TS (bellows seal)**.



- A = electric motor
- B = inspection lantern
- C = mechanical seal
- D = impeller
- E = delivery duct
- F = intake duct

TL = lip seal

TS = bellows seal



pump	motor power	pump	motor power
MB 80	0.37 Kw - 0.5 HP	MB 140	3 Kw - 4 HP
MB 100	0.55 Kw - 0.75 HP	MB 150	4 Kw - 5.5 HP
MB 110	1.1 Kw - 1.5 HP	MB 155	5.5 Kw - 7.5 HP
MB 120	1.5 Kw - 2 HP	MB 160	7.5 Kw - 10 HP
MB 130	2.2 Kw - 3 HP	MB 180	11 Kw - 15 HP



**MAIN FEATURES:**

- Available in polypropylene, PVDF;**
- Positive suction head operation;**
- Weldless;**
- High flow rates: from 5 to 35 m<sup>3</sup>/h;**
- Quick and easy maintenance;**
- Inexpensive spares;**
- There is no possibility of fluid leakage;**
- Head: up to 24 mt;**
- Viscosity: up to 150 cps;**

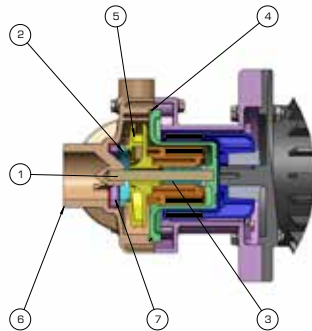
**Motors:**

- standard IEC - IP 55 - CLASS F - 2 POLE - 2.900rpm**
- optional: three phase 230/400V 50/60 Hz**
- single phase 230V 50/60 Hz;**

**Max. operating temperature:**

- PP min +3°C/max +65°C
- PVDF min +3°C/max +95°C

components	material
1 Shaft	Alumina Ceramics 99,7%
2 Thrust bearing washer	PTFE + 30% Graphite
3 Bearing	PTFE + 30% Graphite
4 O-ring	VITON/EPDM
5 Impeller	PP/PVDF+CF
6 Pump Casing	PP/PVDF+CF
7 Head thrust bearing washer	Alumina Ceramics 99,7%



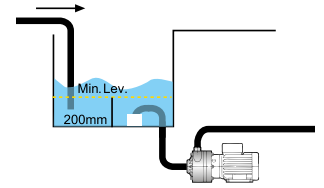
A couple of magnets leads the operation of the pump; the outer magnet placed on the drive shaft transmits the motion to the inner magnet integrated with the impeller that is hermetically insulated. The pump impeller is not physically fixed to the drive shaft, seals are therefore eliminated and this consequently avoids leakages of the liquid drawn by the pump which are usually due to its wear and tear. The pump head is manufactured with few components, thus the maintenance of which becomes extremely easy. The materials used as standard are polypropylene (pp) and polyvinylidene fluoride (pvdf).

The pumps can't run dry. Dirty liquids can reduce the pump life.

**INSTALLATION**

DM magnetic drive centrifugal pumps should only be installed with the shaft positioned horizontally in a positive suction head arrangement.

Suitable devices should be fitted to prevent dry running and the formation of a vortex and possible air suction. Horizontal centrifugal pumps should only operate **WHILST FILLED**.



# TR

**Main features:**

- Available in PP, PVDF e Aisi 316**
- Inexpensive;**
- Portable;**
- Handles corrosive liquids;**
- Viscosity up to 900 cps;**
- Available with either electric or pneumatic motor;**
- Adjustable flow rate (pneumatic version);**
- No mechanical seals;**
- Easily dismantled;**
- Dip tube length = 900 mm or 1200 mm;**
- Flow rate up to 90 l/min.**
- Max. operating temperature:**
- PP min +3°C/max +65°C
- PVDF min +3°C/max +95°C
- AISI 316 min +3°C/max +95°C

- A = drive coupling
- B = motor ring nut
- C = bearing
- D = delivery duct
- E = dip tube
- F = PTFE bushing
- G = impeller
- H = suction port
- I = shaft



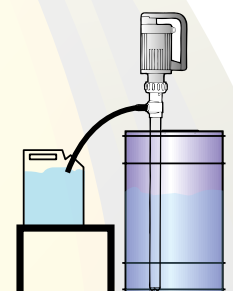
These **portable** drum-transfer immersion pumps are designed to pump corrosive liquids.

Their special shape ensures that any spillages are collected in the drum.

Available with fully-interchangeable **electric or pneumatic motor**, these pumps have an open impeller that allows continuous pumping of clean corrosive liquids having **apparent viscosity of up to 600 cps with 500-watt electric and pneumatic motor (at 20°C) and 900 cps with 800-watt electric motor (at 20°C)**. TR-EL series pumps driven by an electric motor are also fitted with a safety cut-out switch that prevents accidental restart after a power outage.

**INSTALLATION**

TR drum transfer pumps **should only be used with the shaft positioned vertically and the pump immersed in the drum**, whilst **liquid must be present**. Running dry or with air bubbles can cause **damage to the internal shaft guide bushing**.



**MAIN FEATURES:**

**Available in polypropylene, PP, PVDF;**

**Pump immersed in the tank;**

**Motor removable even with pump installed;**

**Weldless;**

**Usable even with extremely dirty liquids;**

**High flow rates: from 6 to 75 m<sup>3</sup>/h;**

**User-friendly bushing replacement;**

**Quick and easy maintenance;**

**Also available without motor;**

**Max. head: 7,2 ÷ 38 m**

**Viscosity: up to 500 cps**

**European voltage motors: IP55 - F Class - 2-pole - 230/400 V**

**50/60 Hz - three-phase**

**single phase from 0,55 kw to 2,2 Kw - 50/60 Hz**

**Column length (L): 500/800/1000/1250 mm**

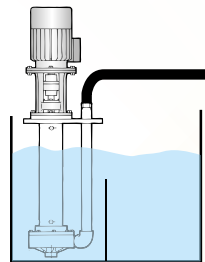
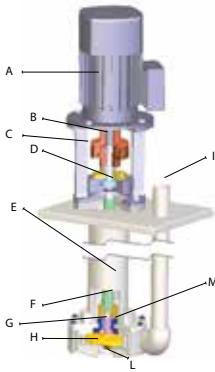
**(other sizes available on request)**

**Max. operating temperature:**

PP min +3°C/max 65°C

PVDF min +3°C/max 95°C

- A = electric motor
- B = drive coupling
- C = lantern
- D = radial bearing
- E = outer column
- F = shaft sleeve
- G = ceramic bushing
- H = impeller
- I = delivery duct
- L = intake duct
- M = bushing



pump	motor power
IM 80	0.37 Kw - 0.5 HP
IM 90	0.55 Kw - 0.75 HP
IM 95	0.75 Kw - 1 HP
IM 110	1.1 Kw - 1.5 HP
IM 120	1.5 Kw - 2 HP
IM 130	2.2 Kw - 3 HP
IM 140	3 Kw - 4 HP
IM 150	4 Kw - 5.5 HP
IM 155	5.5 Kw - 7.5 HP
IM 160	7.5 Kw - 10 HP
IM 180	11 Kw - 15 HP

## PUMP-PROTECTING BASKET STRAINERS

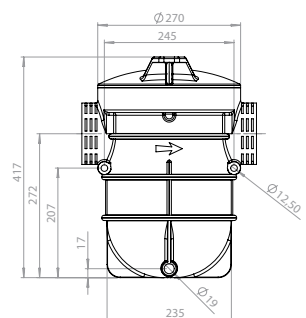
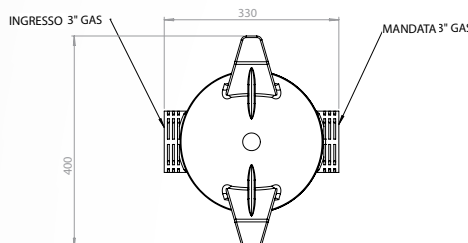
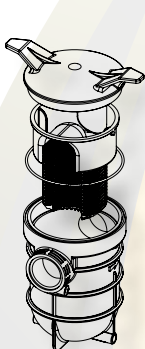
The large passage surface of the basket makes these filters particularly suitable to be installed on the suction head of the pumps, protecting them from suspended solids, impurities and foreign bodies without causing excessive pressure loss.

**MAIN ADVANTAGES:**

- built with PP
- no metal parts
- easy to inspect and remove basket
- operating pressure of 1 bar.

For the chemical industry, water purification, fish farming, galvanizing, tanning, textile, paper, and printing industries and a host of other industrial applications.

Available in connection sizes of 1"½ F, 2" F, 2"½ F, 3" F.

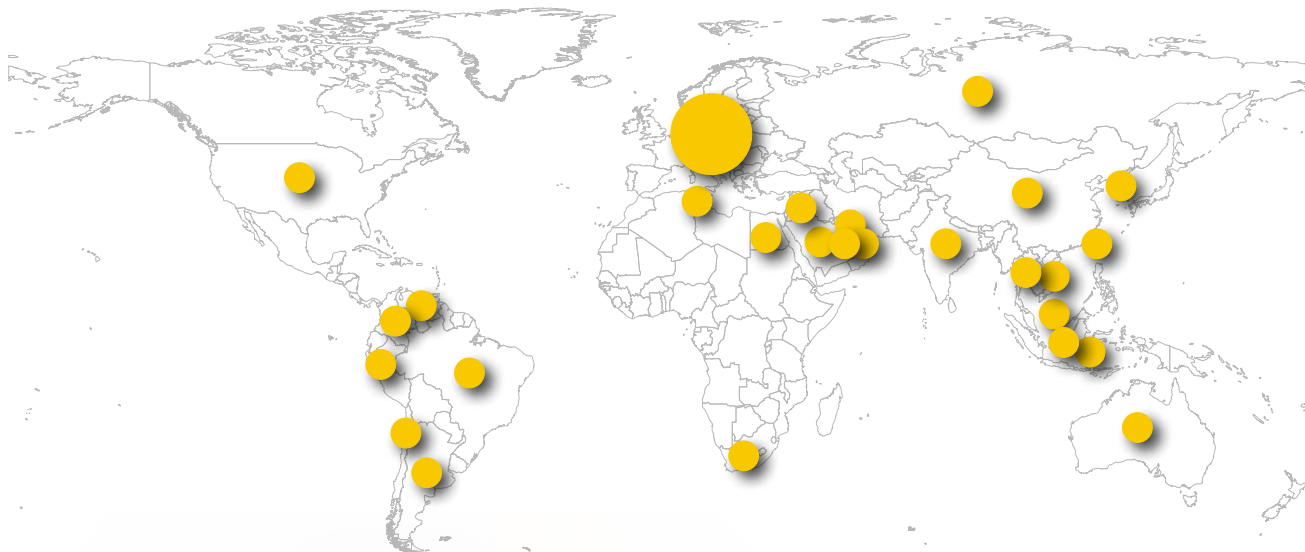




# INDUSTRIAL PUMPS

petrochemical, food, mechanical, environmental, printing, chemical, painting, galvanic, textile and ceramic industry

## DEBEM IN THE WORLD



### NORTH AMERICA

USA

### SOUTH AMERICA

ARGENTINA  
BRASIL  
CHILE  
COLOMBIA  
PERU  
VENEZUELA

### EUROPE

AUSTRIA  
BELGIUM  
BELARUS  
BULGARIA  
CIPRO  
DENMARK  
FRANCE  
HUNGARY  
GEORGIA  
GERMANY  
GREECE  
GREAT BRITAIN  
ITALY  
IRELAND  
LITUANIA  
NORWAY  
NETHERLANDS  
POLAND  
PORTUGAL  
CZECH REPUBLIC  
ROMANIA  
RUSSIA  
SPAIN  
SWEDEN  
SWITZERLAND  
TURKEY  
UKRAINE

### NORTH AFRICA

EGYPT  
TUNISIA

### SOUTHERN AFRICA

SOUTH AFRICA

### MIDDLE EAST

SAUDI ARABIA  
BAHRAIN  
ISRAEL  
QATAR  
SIRIA  
UNITED ARAB  
EMIRATES

### OCEANIA

AUSTRALIA

### ASIA

KOREA  
CHINA  
INDIA  
INDONESIA  
MALAYSIA  
SINGAPORE  
TAIWAN  
THAILAND  
VIETNAM

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