

CENTRIC BUTTERFLY VALVES



DOUBLE ECCENTRIC BUTTERFLY VALVES



HIGH PERFORMANCE BUTTERFLY VALVES



RUBBER-LINED CHECK VALVES



DUAL PLATE CHECK VALVES



DISMANTLING JOINTS WITH INTERNAL RUBBER



PENSTOCKS



# DESALINATION SOLUTIONS

# WHO WE ARE

TALIS is a leading global provider of premium valves, hydrants and other solutions for water flow control.

With a varied range of products, we offer comprehensive solutions for the entire water cycle, from hydrants to butterfly valves, from knife-gate valves to needle valves. Our experience, innovative technology, global expertise and individual consultation process, form the basis for developing sustainable solutions for the efficient handling of the vital resource "water".

With over nine strong brands and 28 entities in Germany, France, Spain, Portugal, Italy, Great Britain, the Netherlands, Russia, Poland, Israel, China, the Middle East, Mexico, India, South Africa and Singapore, TALIS is the largest supplier of valve technology and first choice when it comes to water valves and services for the whole water cycle.



1871

Foundation of ERHARD (D)  
Water taps



1874

Foundation of SCHMIEDING (D)  
Modern and market orientated solutions



1880

Foundation of BAYARD (FR)  
Beer taps and water fountains



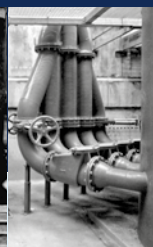
1945

Foundation of LUDWIG FRISCHHUT (D)  
« in-house » foundry



1949

Foundation of RAPHAEL (ISR)  
Control valves



1957

Foundation of STRATE (D)  
Product and problem-solving competence  
Sewage industry



Foundation of BELGICAST (ES)  
Valve manufacturer for the naval industry



1974

Foundation of ATLANTIC PLASTIC (UK)  
Plastic fittings

« TALIS STRIVES TO SERVE YOU AS OUR CUSTOMER WITH SUPERIOR QUALITY AND SERVICE LEVELS.

Continuous innovation of our products and applications paired with technical support allows you to maintain your critical water infrastructure with confidence. »



29 000

DIFFERENT PRODUCTS IN CATALOGUE

Over 50

SALES PARTNERS

SALES IN 187 COUNTRIES

13

FACTORIES WORLDWIDE

19 000

CUSTOMERS

1 300

EMPLOYEES



1992

Foundation of UNIJOUNT (NL)  
Adapters and extensions, pipe couplings, flange adapters and dismantling joints



2001

Acquisition by Tyco Waterworks



2010

Acquisition by Triton and creation of TALIS



2011/13

Russia (2011)  
China (2012)  
Brazil (2013)  
Middle East (2013)



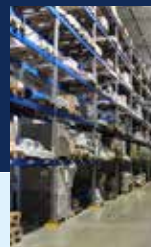
2014

Launch of « Smart-Inside » solutions to make our products smarter - South Africa



2015/16

Mexico (2015)  
Joint-Venture with Kc-Val (2016)  
India (2016)  
Singapore (2016)



2017

New logistic centre in Germany



2018

Growth of TALIS Team in India  
Support in engineering and marketing services

# DESALINATION SOLUTIONS

THE HIGH RELIABILITY OF TALIS PRODUCTS REDUCES THE RISKS ASSOCIATED WITH LARGE SCALE INSTALLATIONS AND THUS ENSURES A SUCCESSFUL AND ECONOMIC ON-TIME COMPLETION OF THE PROJECT.

MEMBER OF



MORE THAN **8** million m<sup>3</sup>/d  
IN SWRO PLANTS  
WORLDWIDE

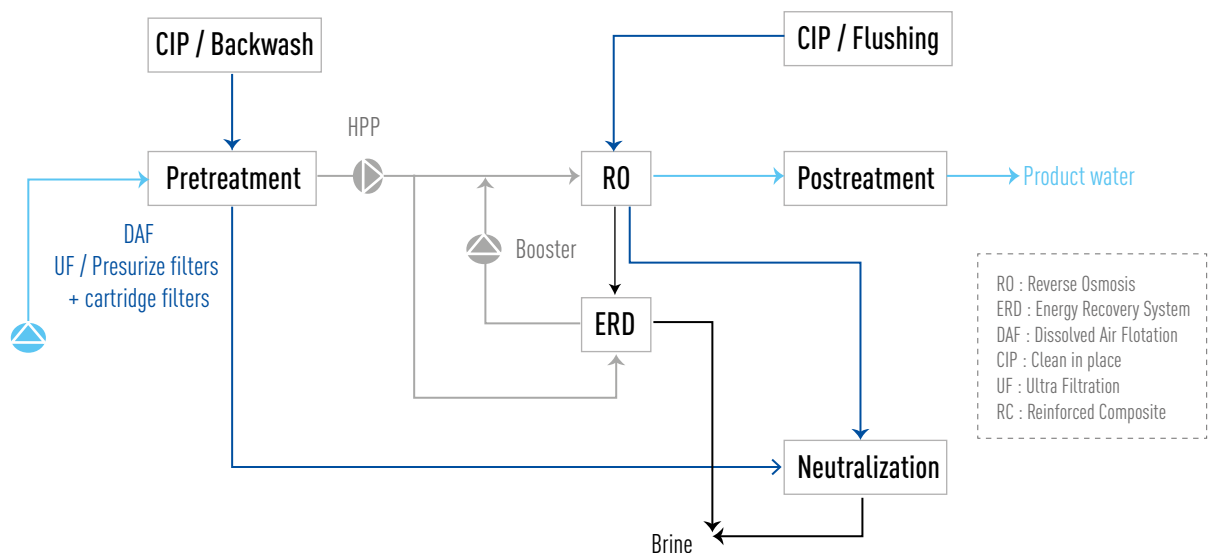
**BUTTERFLY VALVES**  
DN32-2000

**CHECK VALVES**  
DN40-1800

**HIGH PRESSURE CHECK VALVES**  
UP TO 100 BAR

**PENSTOCKS**  
UP TO 4000X4000

**DISMANTLING JOINTS**  
UP TO DN2000



## TALIS PRODUCTS WITH THEIR DIFFERENT CONFIGURATIONS ARE A SUITABLE ON DIFFERENT APPLICATIONS IN A SEA WATER REVERSE OSMOSIS PLANT

	LOW PRESSURE			HIGH PRESSURE		LOW PRESSURE				
	Intake	Pretreatment	CIP/Backwash	RO	ERD	Neutralization	CIP-Flushing	Brine	Posttreatment	Product Water
Butterfly Valve (BV)	SD	SD	SD/SS	-	-	SS/SD	SS	SD	SS	SS
Automatic BV	√	√	√	-	-	√	√	√	√	√
Manual BV	√	-	-	-	-	-	√	√	√	√
Check Valve (CV)	SD	SD	SD/SS	SD	SD	SS/SD	SS	SD	SS	SS
Dismantling Joint	Rubber-lined DI	Rubber-lined DI	Rubber-lined DI	-	-	Rubber-lined DI	DI	Rubber-lined DI	DI	DI
Penstocks	-	SD	-	-	-	-	-	-	SS	-



### HIGH PRESSURE Dual Plate Check Valves

HIGH PRESSURE dual plate check valves are installed in most of the SWRO plants worldwide and have become the most common solution to protect the High Pressure Pump.



### LOW/MID PRESSURE Check Valves

TALIS offers a complete range of dual plate check valves with multiple options for materials including Super Duplex for seawater, and vulcanized internal rubber as a cost-effective alternative. TALIS check valves are suitable for installation at low and mid pressure stages of the process. We offer high and low torque springs, depending the position of the valves.



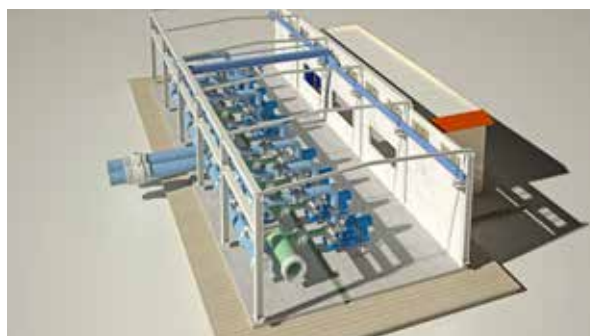
### BELGICAST Centric Butterfly Valve

TALIS butterfly valves have evolved, adapting to customers' requirements through our expertise offering materials suitable for seawater, brackish and demineralized water. Our valves are suitable for ON/OFF and Regulating service. Manual, pneumatic and electric actuated.



### TALIS Penstock for DAF

TALIS penstocks are designed for the different applications on Dissolved Air Flotation (DAF) installations. DAF technology is commonly used for Algae removal in desalination plants. Our penstocks are manufactured in Super Duplex with PREN >40 and comply with DIN 19704 (Hydraulic Steel Structures).



# CENTRIC BUTTERFLY VALVE GREAT GOLD

## MAIN FEATURES

- └ ON/OFF and regulating service
- └ Replaceable liner
- └ Easy maintenance
- └ Low operating torque
- └ Centered shaft
- └ Bidirectional flow
- └ Rubber lined
- └ Complete protection of the shaft and body from circulating fluids
- └ Class tightness Rate A according to EN 12266-1 (zero leakage)



## BELGICAST RANGE

### MATERIALS OF CONSTRUCTION

**Body:** GGG40 + 250 micron epoxy coating  
**Disc:** Super Duplex ASTM A890 Gr.5A (PREN>40)  
 A351 CF8M (316)  
 Halar® coated disc  
**Liner:** EPDM  
**Shaft:** AISI-420  
 Other materials on request.

### MANUFACTURING RANGE

**Size:** From DN32 (1") to DN2000 (80")  
**Rating:** PN10 / 16 / 25 / ANSI-150 / ANSI-300  
**Connections:** Wafer, Lug, Flanged  
**Functions:** ON/OFF and regulating

### DESIGN DATA

**Flange standard:** EN 1092 PN10/16 ANSI #150 (other options available)  
**Face to face:** ISO 5752 Series 20  
**Design:** EN 558, BS 5155 / API 609  
**Testing:** EN 12266-1, API 598



TALIS BUTTERFLY VALVES COMPLIES WITH **C5M** CORROSION PROTECTION LEVEL FOR VERY HIGH CORROSIVE ENVIRONMENTS.



TALIS GUARANTEES THE **EUROPEAN ORIGIN** OF ITS PRODUCT RANGE, MANUFACTURED ACCORDING TO THE HIGHEST QUALITY REQUIREMENTS.

## FEATURES AND BENEFITS

### REDUCED FRICTION

Optimized tolerance between disc and liner achieving both, tightness and minimum torque, extending seat durability at the same time. Polished disc edge minimizing interference.

5 self-lubricating steel bushings with reinforced PTFE lining: 2 bushings in upper stem and 3 bushings in lower stem.

### SUPERIOR TORQUE TRANSMISSION

Polygonal connection between disc and shaft, (special CNC machining), which ensures optimum power transmission and free of play.

### ADVANCED GRIP AND FIT

Upper and lower flat surfaces.

Improved compression with external O-ring providing a tight seal at the flange connections.

Liner finish for improved adhesion to body.

Profiled body and liner for ideal fit.

Reinforced sealing system around the stem avoiding water between liner and body.



## NUMEROUS COMBINATIONS TO COVER ALL YOUR APPLICATIONS

### OPERATING SYSTEM

- Lever
- Gear box 1/4 tour
- Slider crank gearbox (SKG)
- Double acting pneumatic actuator
- Double acting pneumatic actuator (manual emergency)
- Single acting pneumatic actuator
- Single acting pneumatic actuator (manual emergency)
- Electric actuator 1/4 turn
- Elect. Actuator multi-turn + gear box



### ACTUATOR OPTIONS

- Position indicator
- Position indicator « Namur »
- Positioner
- Chainwheel
- Extensions
- Solenoid valve



PNEUMATIC ACTUATORS WITH REQUESTED **EQUIPMENT** (POSITION INDICATOR, EMERGENCY HANDWHEEL, POSITIONER,...). **STAINLESS STEEL** PNEUMATIC ACTUATORS AVAILABLE.

# HIGH PRESSURE DUAL PLATE CHECK VALVE

## MAIN FEATURES

- └ Compact wafer-style one-piece design reducing installation space and time
- └ Maximum flow area reduces pressure loss
- └ Heavy duty corrosion resistance construction.
- └ Maximum strength with minimum opening and closing time.
- └ Different spring configuration for different valve position



**BELGICAST RANGE**

## MODEL B SUITABLE FOR HIGH PRESSURE

### MATERIALS OF CONSTRUCTION

**Body:** ASTM A 890 Gr5A Super Duplex (PREN>40)  
**Plates:** ASTM A 890 Gr5A Super Duplex (PREN>40)  
**Shafts:** 254 SMO  
**Springs:** Inconel 625  
**Liner:** EPDM  
 VITON

Other materials on request.

### MANUFACTURING RANGE

**Size:** From DN40 (1 1/2") to DN1200 (48")  
**Rating:** ANSI-600 / PN100 (up to 100 bar)  
**Standard:** API-594



TALIS HIGH PRESSURE DUAL PLATE CHECK VALVES ARE MANUFACTURED IN SUPER DUPLEX WITH PREN >40



# LOW PRESSURE DUAL PLATE CHECK VALVE

## MAIN FEATURES

- └ Compact wafer-style one-piece design reducing installation space and time
- └ Maximum flow area reduces pressure loss
- └ Heavy duty corrosion resistance construction.
- └ Maximum strength with minimum opening and closing time.
- └ Different spring configuration for different valve position



## BELGICAST RANGE

## MODEL C SUITABLE FOR ALL LOW PRESSURE STAGES OF THE PROCESS

### MATERIALS OF CONSTRUCTION

**Body:** A351 CF8M  
ASTM A 890 Gr.5A Super Duplex (PREN>40)

**Plates:** A351 CF8M  
ASTM A 890 Gr.5A Super Duplex (PREN>40)

**Shafts:** AISI-316  
254 SMO

**Springs:** Inconel 625

**Liner:** EPDM

Other materials on request.

### MANUFACTURING RANGE

**Size:** From DN40 (1 1/2") to DN1400 (56")

**Rating:** PN10 / 16 / ANSI-150 / ANSI-300

**Standard:** ISO 5758 Series 16, EN 558 Series 16

**Wafer or flanged type**



## RUBBER-LINED BODY, the cost effective alternative

### MATERIALS OF CONSTRUCTION

**Body:** GGG-40 fully lined with NBR or EPDM

**Plates:** A351 CF8M  
ASTM A 890 Gr 5A Super Duplex (PREN>40)

**Shafts:** AISI-316  
254 SMO

**Springs:** Inconel 625

Other materials on request.

### MANUFACTURING RANGE

**Size:** Model C: from DN350 (14") to DN1400 (56")  
Model EMG: From DN40 (1 1/2") to DN300 (12")

**Rating:** PN10 / 16 / ANSI-150

**Standard:** ISO 5758 Series 16, EN 558 Series 16.

## BELGICAST RANGE



## TILTING DISC CHECK VALVE MODEL ERK

### MAIN FEATURES

- Low head loss is ensured by the double-offset free-swinging disc, key component of the ERK. The disc is freely oscillating and has a flow-facilitating design with its double eccentricity supports.
- Maximum crossing section reached by a two-part shaft.
- Maintenance-free valve – Thanks to the construction of the shafts, self-lubricating friction bearings and maintenance-free seals from the shaft.
- Perfect sealing – Provided by a rolled up, solid body seat ring made of stainless steel, and a disc seat ring which is additionally provided with a resilient precision seal.

### MATERIALS OF CONSTRUCTION

- Hard rubber-lining inside: high quality hard, vulcanized rubber lining inside the valve body and disc in order to provide the strong protection against aggressive media.



### ERHARD RANGE

### MANUFACTURING RANGE

- Double flange design: EN593
- Face-to-face dimensions: EN558 series 14
- Nominal Diameter (DN): DN150 – DN1400
- Nominal Pressure (PN): PN10 to PN40

## DOUBLE ECCENTRIC BUTTERFLY VALVE ROCO WAVE

### MAIN FEATURES

- Double-eccentric design acc. to EN593 ensures minimal stress on the sealing after unseating the valve. This results in a long service life of the valve.
- High quality coating is selected and applied to the valve according to the application in order to provide the best possible corrosion protection.
- Flexibility – Standard ISO 5211 connection flange allows use of all different kinds of actuators.
- High protection degree means that the standard valve can be flooded or used in buried service without additional effort.

### MATERIALS OF CONSTRUCTION

- Hard rubber-lining inside: high quality hard, vulcanized rubber lining inside the valve body and disc in order to provide the strong protection against aggressive media.



### ERHARD RANGE

### MANUFACTURING RANGE

- Double flange design: EN593
- Face-to-face dimensions: EN558 series 14
- Nominal Diameter (DN): DN150 – DN3600
- Nominal Pressure (PN): PN10 to PN40

# HIGH PRESSURE BALL VALVE

## MAIN FEATURES

- └ With a smooth and safe movement, the ball valve is designed to work with liquids or gases under either high pressure or moderate vacuum service. To be used in numerous applications, manufactured in several sizes, connections and alloys.
- └ Full bore (FB) or Reduced bore (RB).
- └ Temperature range -20°C/200°C (-4°F/392°F)
- └ Standard reinforced PTFE seats 105 bar (1500PSI)
- └ Smooth operating.
- └ Easy cleaning and maintenance.
- └ No ejectable stem design.
- └ Anti-leak stem with double o-ring seal.
- └ 316 SS handle to reduce the risk of corrosion.
- └ 100% tested.



## TALIS RANGE

### MATERIALS OF CONSTRUCTION

AISI-316L (1.4404)  
 Duplex (1.4462)  
 SuperDuplex (1.4410/1.4501)  
 Special alloys (For detailed information consult attached data sheet).

### OPTIONS

- └ PEEK seats for high pressures 210bar (3000PSI).
- └ Actuation: Manual, Electric, Pneumatic.
- └ Prepared for a quick automation (ISO 5211).
- └ Male-Female (MxF) end connections.
- └ Male-Male (MxM) end connections.
- └ Handle safety lockout.
- └ O-ring seals available in several materials.

### MANUFACTURING RANGE

**Size:** from 3/8" to 4"

**Connection:**

Threaded NPT (ANSI B1.20.1)  
 Threaded BSP (DIN ISO 228-1)  
 Socket Weld SW (ANSI B16.11)  
 Buttweld BW (ANSI B16.25)  
 Grooved end connections  
 Two-ferrule compressing fittings

## PENSTOCK (SWRO PLANTS WITH DAF)

### MAIN FEATURES

- └ For **round or rectangular** openings for doweling to the wall or for casting with concrete into the wall
- └ **Self-cleaning** stem nut
- └ Durable operational reliability, **maintenance-free**
- └ High process safety due to an **outstanding sealing performance**
- └ Maximum **corrosion protection** due to stainless steel material, all acid cleaned and passivated



**ERHARD RANGE**

### MATERIALS OF CONSTRUCTION

**Frame and sliding plate:** Stainless steel 304, 316Ti or Super Duplex  
**Sealing:** EPDM  
**Stem:** Stainless steel 304, 316Ti or Super Duplex  
**Stem nut:** GC-CuSn 12, bronze, seawater resistant  
**Chemical anchor bolts:** Stainless steel 316Ti or Super Duplex

### MANUFACTURING RANGE

**Size:** Up to 4000x4000  
**Rating:** Standard up to 0,6 bar. Optional for higher pressure rates.

## HIGH PERFORMANCE BUTTERFLY VALVE

### MAIN FEATURES

- └ ON/OFF and regulating service
- └ Eccentric type
- └ Metal to metal available



**TALIS RANGE**

### MATERIALS OF CONSTRUCTION

**Body:** Super Duplex ASTM A995 5A (PREN > 40)  
**Disc:** Super Duplex ASTM A995 5A (PREN > 40)  
**Liner:** 25% fibre glass PTFE  
**Shaft:** UNS S32760 (1.4501/F55)

### MANUFACTURING RANGE

**Size:** From DN50 (2") to DN400 (16")  
**Rating:** PN25, ANSI 300#  
**Connections:** Wafer  
**Actuation:** Manual, Pneumatic, Electric  
**Flange standard:** Wafer ANSI #300, PN25  
**Face to face:** EN558-1 and 2, series 20  
**Top Flange:** ISO 5211  
**Design:** EN593  
**Testing:** API 598

# DISMANTLING JOINT WITH INTERNAL RUBBER LINING

## MAIN FEATURES

- └ **Internal ebonite hard rubber** - a cost effective alternative to duplex stainless steel
- └ **Manufacturing and design** - In accordance with AWWA-C219 guaranteeing an absolutely leakproof product.
- └ **High quality materials** - Selected for strength and durability.
- └ **Proven design** - In many prestigious and challenging projects worldwide.
- └ **Essential aid** - For the installation and dismantling of pipe sections, valves and pumps.
- └ **Full bore**



**UNIJOINT RANGE**

## MATERIALS OF CONSTRUCTION

- Body:** EN-GJS-500-7, and/or S235EN10025,  
Internal ebonite hard rubber
- Tie-Bars:** Stainless Steel AISI316-A4
- Gasket:** EPDM [EN681] or NBR
- Coating:** outside: three layer high solid epoxy 250-300µ  
inside: ebonite hard rubber

Other options on request.

## MANUFACTURING RANGE

- Size:** From DN50 (2") to DN3000 (120")
- Rating:** PN10/16/25/40 up to 100bar
- Flange norm/drilling:** ISO2531 / EN1092 Raised Face



UNIJOINT specializes in products tailored to specific customer needs, e.g. special materials, alternative coatings and super large diameters. Our products can be designed to meet working pressures of 100 bars and beyond and diameters exceeding DN4000. As a cost-effective alternative to Duplex Stainless Steel for salt/brackish water intake, dismantling joints with internal rubber lining are available on request.

## MATERIALS TO WITHSTAND CORROSION

One of the main issues that engineering companies face is the exposure of commonly handled long-life equipment to high salinity fluid, such as seawater and brine, reaching TDS levels higher than 50.000ppm. TALIS offers a multiple options for these materials, such as discs coated with **HALAR ECTFE**, which offers the **best combination of low permeability and good chemical resistance** with a very smooth surface.

For High pressure valves and steel wetted parts, TALIS provides high quality **SUPER DUPLEX** with Pitting Resistance Equivalent Number ( $PREN = Cr(\%) + 3,3 \times (Mo+0.5W)(\%) + 16 \times N(\%) > 40$  and  $CF > 35$ ).

We apply a high durability coating system for environmental conditions classified as C4 and C5-M very high corrosivity (marine) at our Painting Facilities.

## OPERATING OPTIONS

Wide range of manual, electric and pneumatic actuators, including ON/OFF and regulating service. We offer the complete package including the required instrumentation, such as limit switch box, solenoid valves, electro-pneumatic positioners and air flow control valves.

## QUALITY TO LAST

All TALIS desalination products are made to ensure long and problem free operation throughout their life. Therefore our products are designed, manufactured, and tested to meet highest quality requirements.



# REFERENCE LIST

Project Title	Country	Capacity (m <sup>3</sup> /day)	Year
Al Khobar SWRO	Saudi Arabia	210.000	2019*
Umm Al Houf II SWRO	Qatar	284.000	2019*
Agadir SWRO	Morocco	450.000	2019*
Salalah IWP SWRO	Oman	113.500	2019*
Port Said SWRO	Egypt	150.000	2019*
Bandar Abbas SWRO	Iran	80.000	2019*
Alpha SWRO Exp.	UAE	10.000	2019*
Duba SWRO	Saudi Arabia	125.000	2019*
KAEC SWRO	Saudi Arabia	30.000	2018*
Djibouti SWRO	Djibouti	22.000	2018*
Zhou Shan SWRO	China	283.000	2018*
Provisur SWRO	Peru	35.000	2018*
Marina East SWRO	Singapore	136.500	2018*
Al Hoceima SWRO	Morocco	20.000	2018*
El Alamein	Egypt	150.000	2018*
Shuaibah 3 expansion II	Saudi Arabia	150.000	2018*
Java SWRO	Indonesia	10.000	2017
El Tor SWRO	Egypt	30.000	2017
Bandas Abbas SWRO	Iran	20.000	2017
El Galalah SWRO	Egypt	150.000	2017
Al Khafji SWRO	Saudi Arabia	60.000	2017
Sardegna SWRO	Italy	20.000	2017
Djerba SWRO	Tunisia	50.000	2016
SUR SWRO (additional)	Oman	83.500	2016
TUAS 3 SWRO	Singapore	130.000	2016
Cangzhou SWRO	China	30.000	2016
Al Yosr 2 SWRO	Egypt	40.000	2016
Qurayat SWRO	Oman	200.000	2016
Barka SWRO	Oman	280.000	2016
Ensenada SWRO	Mexico	21.600	2016
Marrasi SWRO	Egypt	10.000	2016
Facility D SWRO	Qatar	284 000	2016
Ras Abu Fontas 3 SWRO	Qatar	164 000	2016
Al Yosr SWRO	Egypt	40 000	2016
Mirfa IWPP-SWRO	UAE	136 380	2015
Angamos SWRO	Chile	19 200	2015
Montazah SWRO	Egypt	24 000	2015
Beetham RO-WRP	Trinidad & Tobago	50 000	2015
Sheikh Zouwayed SWRO	Egypt	10 000	2014
Sadara SWRO	Saudi Arabia	178 560	2014
Al Ghubrah IWP - SWRO	Oman	190 932	2014
Pacific Rubiales Puerto Galan BWRO	Colombia	79 500	2014
Jubail SWRO-4	Saudi Arabia	100 000	2014
Nungua SWRO	Ghana	60 000	2014
Marsa Matrouh SWRO	Egypt	24 000	2013
Barka 1 IWPP expansion	Oman	45 460	2013
Tenes SWRO	Algeria	200 000	2013
Jorf Lasfar SWRO	Morocco	75 800	2013
Candelaria SWRO	Chile	29 800	2012

\* Plant under construction





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