# ProAir


## Refrigerated Air Dryers

- ★ Industrial Purpose
- ★ Dryers for PET Industry
- ★ Biogas Treatment
- ★ Ships & Shipyards
- ★ Seismic-Proof Dryers
- ★ High Pressure Dryers upto 200 bar
- ★ Dryers for Vacuum Applications

# Drying Compressed Air

Compressed air is a superb source of energy unfortunately saturated with water vapour that condenses in the installation lines, creating corrosion and oxidation.

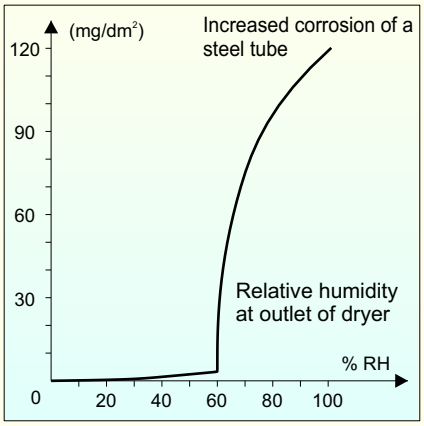
The results are :

- Wear and tear in tools and cylinders
- Increasing pressure drop in the circuits
- Damaged seals

Moreover, water vapour combined with lubricant expelled from the compressor pollutes all the pneumatic lines and actuators. This leads to unreliable processes, stoppages, contaminated products,... and consequently production delays and high maintenance costs.

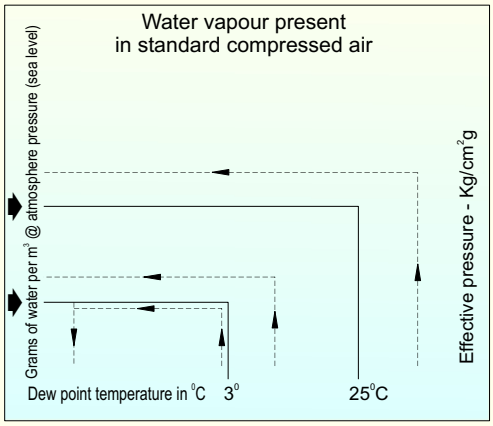
## Compressed air must be efficiently dried prior to any use

SOLUTION :
our VT superdryers fitted with the
"3 in 1" Monobloc Exchanger



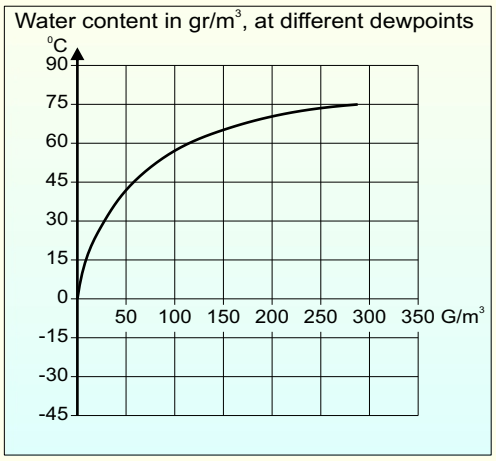

- Quantity of humidity in compressed air @ 25° C : 2.8 gr.
- Quantity of humidity in corresponding to a 3° C dew point at dryer outlet : 0.75 gr.
- Relative humidity ratio at dryer outlet : 0.75 / 2.8 = 26.8 %.

**Which means absence of corrosion**

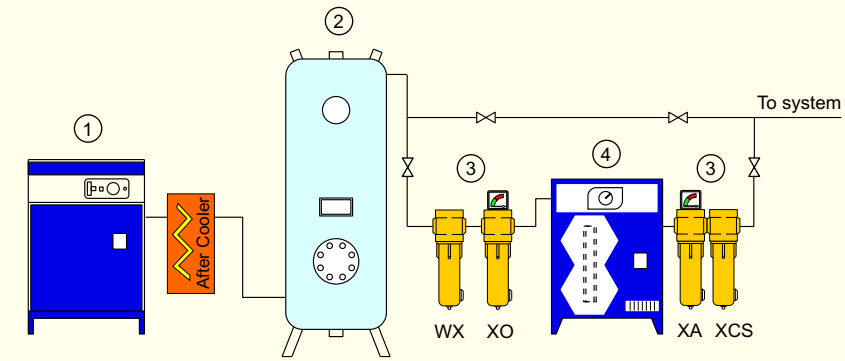



| CLASS OF QUALITY | WATER |
|---|---|
| | Dewpoint under Pressure in °C at 7 Kg/cm² g eff. |
| 1 | -70 |
| 2 | -40 |
| 3 | -20 |
| 4 | +3 |
| 5 | +7 |
| 6 | +10 |

From the dew point graph, it is seen how difficult it is to dry the air completely. Our dryers give 100% efficiency at 3° C pressure dew point & consistent quality, thanks to the monobloc design of heat exchanger. At equal flow, we provide lowest pressure drop. This is important as 100 mbar pressure drop saves energy equal to 50% of fridge power installed, which will pay back your investments in short time.




TYPICAL INSTALLATION : ProAir Recommendation.

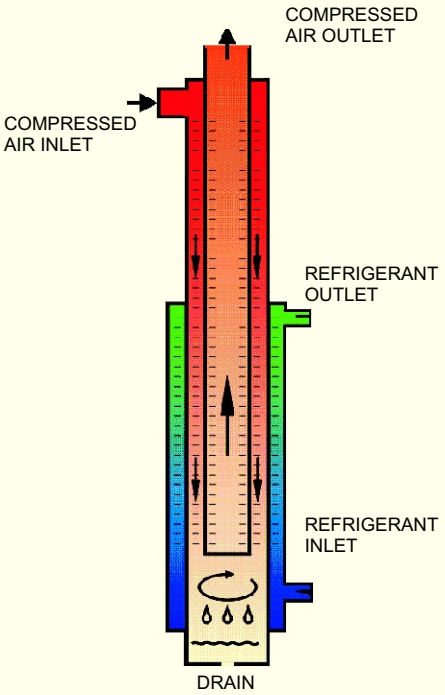



1. Compressor 2. Air Receiver 3. Filter 4. Dryer

**WX Water separator for bulk water removal.**
**XO Fine filtration for general purpose protection.**
**XA High efficiency filtration for particulate and oil free air.**
**XC, XA+XCS for the removal of all particles, oil, odour and vapour. Suitable for certain breathing air Applications.**

# The “3 in 1” Monobloc Heat Exchanger

Made of three concentric coated steel tubes linked together with specially designed coppers fins, the core of the “ 3 in 1” is unique and presents a surface of exchange maximizing the transfer of calories : 12m$^2$ per 100 l/s : The ideal design to dry your compressed air.

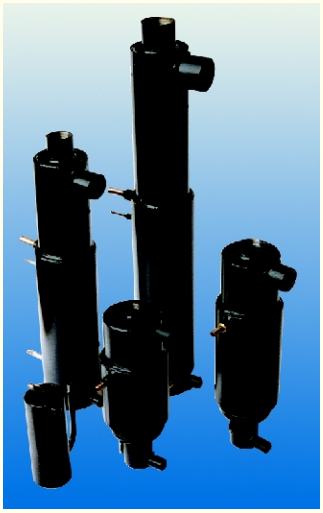


**3 in 1 Exchanger**

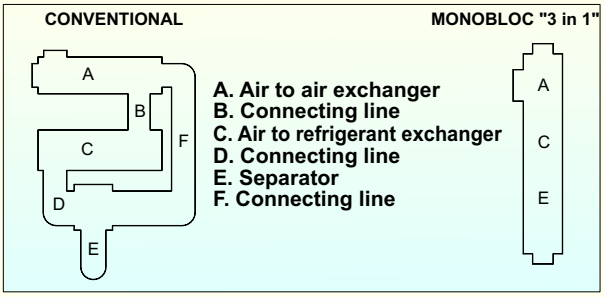
It features in a rugged and small volume :

- an air-air economizer
- an air refrigerant heat exchanger
- a refrigerated separator

- The refrigerant flows inside the outer enclosure which wraps the air circuit and the separator.
- The fridge regulation keeps a continuous flooding of refrigerant for an efficient cooling of the whole surface.
- The very small thermal inertia allows quick starting and start-stop regulation with your compressor.
- The assembly is perfectly insulated with heat-proof stand and cover.
- From the inlet to the outlet, your compressed air flows through the copper fins inducing 100% turbulence, without **Neutral Vein**, thanks to the special design. The transfer of calories is boosted and independent from flow variations.
- Entering the economizer the hot compressed air is precooled by the outflowing chilled air, without energy consumption.
- In the cold zone of the air-refrigerant section, water droplets start to separate progressively from the air following 5 principles of thermodynamic and fluid laws :
  - Centrifugal separation
  - Flow reversal due to concentric design
  - Deceleration
  - Coalescence on refrigerated surface
  - Gravity
- Separation is effective up to 150% of the nominal flow without any reheat or re-evaporation.
- The outgoing dry chilled air is warmed up in the economizer by the hot incoming air.
- Being simple while others are complicated, the “3” in “1” provides outstanding qualities to our superdryers : compactness, reliability, efficiency, safety, low pressure drop and cost effectiveness.
- Operated with CFC and HCFC free refrigerant compressors, the “3” in “1” is Ozone friendly.


Heat Exchanger

The “3 in 1” is top class and made to last



# Super Refrigerated Air Dryers

## DESIGNED TO LAST LONGER

Technical Data :

| Model | Flow (*) | | | Condenser airflow | Power kW | | Fittings (**) | Noise | △P | Dimensions (mm) | | | | | | | Weight | Drain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | l/min | $M^3/h$ | l/s | $M^3/h$ | Cons. | Diss. | B.S.P. | dB | bar | H | D | L | EV | EH | SV | SH | Kgs. | |
| SVT 15 | 183 | 11 | 3.1 | 100 | 0.15 | 0.5 | 1/2" | 52 | 0.01 | 338 | 502 | 363 | 253 | 178 | 315 | 104 | 25 | 1 |
| SVT 20 | 264 | 16 | 4.4 | 100 | 0.17 | 0.5 | 1/2" | 53 | 0.01 | 338 | 502 | 363 | 253 | 178 | 315 | 104 | 25 | 1 |
| SVT 30 | 480 | 29 | 8 | 370 | 0.2 | 0.6 | 1/2" | 52 | 0.02 | 338 | 502 | 363 | 253 | 178 | 315 | 104 | 25 | 1 |
| SVT 50 | 732 | 44 | 12.2 | 340 | 0.22 | 0.7 | 1/2" | 53 | 0.03 | 338 | 502 | 363 | 253 | 178 | 315 | 104 | 30 | 1 |
| SVT 70 | 1140 | 68 | 19 | 370 | 0.2 | 0.5 | 3/4" | 52 | 0.02 | 475 | 677 | 410 | 352 | 234 | 435 | 148 | 43 | 1 |
| SVT 100 | 1620 | 97 | 27 | 340 | 0.3 | 1.0 | 3/4" | 51 | 0.05 | 475 | 677 | 410 | 352 | 234 | 435 | 148 | 47 | 1 |
| SVT 130 | 2220 | 133 | 37 | 410 | 0.5 | 1.6 | 3/4" | 53 | 0.06 | 475 | 677 | 410 | 352 | 234 | 435 | 148 | 50 | 1 |
| SVT 160 | 2580 | 155 | 43 | 800 | 0.6 | 1.9 | 3/4" | 58 | 0.08 | 475 | 677 | 410 | 352 | 234 | 435 | 148 | 55 | 1 |
| SVT 220 | 3600 | 216 | 60 | 980 | 0.7 | 2.3 | 1.1/4" | 59 | 0.09 | 600 | 700 | 490 | 442 | 309 | 547 | 204 | 66 | 1 |
| SVT 270 | 4500 | 270 | 75 | 980 | 1.0 | 3.4 | 1.1/4" | 63 | 0.14 | 600 | 700 | 490 | 442 | 309 | 547 | 204 | 75 | 1 |
| SVT 330 | 5400 | 324 | 90 | 980 | 1.2 | 4.3 | 1.1/4" | 63 | 0.18 | 600 | 700 | 490 | 442 | 309 | 547 | 204 | 80 | 1 |

Voltage : 230V-1-50Hz - Option : T : 400V-3-50Hz (available) from VT 270) - (**) Connection back face.

| Model | Flow (*) | | | Flow Condenser air | Flow Condenser Water | Power kW | | Fitting | Dimensions (mm) | | | | | | | Weight | Drain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $M^3/min$ | $M^3/h$ | l/s | $M^3/h$ | $M^3/h$ | Cons. | Diss. | | H | D | L | EV | EH | SV | SH | Kgs. | |
| SVT 430 | 7.2 | 432 | 120 | 980 | - | 1 | 3.4 | 1.1/2" | 815 | 555 | 672 | 726 | 435 | 435 | 572 | 120 | 1 |
| SVT 500 | 8.4 | 504 | 140 | 980 | - | 1.2 | 4.3 | 2" | 1040 | 700 | 752 | 942 | 600 | 600 | 652 | 150 | 1 |
| SVT 630 | 10.5 | 630 | 175 | 980 | - | 1.2 | 4.3 | 2" | 1040 | 700 | 752 | 905 | 600 | 600 | 652 | 170 | 1 |
| SVT 870 | 14.4 | 864 | 240 | 2250 | - | 1.6 | 6.5 | 2" | 1040 | 700 | 752 | 905 | 600 | 600 | 652 | 195 | 1 |
| SVT 950 | 15.6 | 936 | 260 | 2250 | - | 1.6 | 6.5 | 3" | 1320 | 700 | 800 | 1027 | 319 | 1232 | 97 | 250 | 2* |
| SVT 1100 | 18.3 | 1098 | 305 | 2250 | - | 2.1 | 8.5 | 3" | 1320 | 700 | 800 | 1027 | 319 | 1232 | 97 | 280 | 2 |
| SVT 1300 | 21 | 1260 | 350 | 2250 | - | 2.1 | 8.5 | 3" | 1320 | 700 | 800 | 1027 | 319 | 1232 | 97 | 350 | 2 |
| SVT 1500 | 24 | 1440 | 400 | 5000 | - | 2.7 | 8.5 | 3" | 1325 | 1120 | 1000 | 1010 | 350 | 1215 | 128 | 450 | 2 |
| SVT 1700 | 28.5 | 1710 | 475 | 4800 | 0.7 | 3.4 | 13.6 | 3" | 1325 | 1120 | 1000 | 1010 | 350 | 1215 | 128 | 460 | 2 |
| SVT 2100 | 34.8 | 2088 | 580 | 7000 | 1.0 | 4.3 | 13.6 | 3" | 1325 | 1120 | 1000 | 1010 | 350 | 1215 | 128 | 500 | 2 |
| SVT 2300 | 38.4 | 2304 | 640 | 7000 | 1.0 | 4.7 | 15.4 | 3" | 1325 | 1120 | 1000 | 1010 | 350 | 1215 | 128 | 525 | 2 |
| SVT 2700 | 44.4 | 2664 | 740 | 6600 | 1.2 | 5.2 | 18.0 | 4" | 1325 | 1120 | 1400 | 695 | 970 | 1196 | 970 | 560 | 2 |
| SVT 3200 | 52.2 | 3132 | 870 | 6000 | 1.6 | 6.1 | 20.6 | 4" | 1325 | 1120 | 1400 | 695 | 970 | 1196 | 970 | 600 | 2 |
| SVT 4100 | 67.8 | 4068 | 1130 | 7600 | 2.0 | 7.2 | 27.5 | 4" | 1800 | 1120 | 1400 | 695 | 970 | 1196 | 970 | 770 | 2 |
| SVT 4700 | 78 | 4680 | 1300 | 16600 | 4.5 | 8.4 | 30.3 | DN 150 | 1800 | 1120 | 1800 | 695 | 970 | 1196 | 970 | 820 | 2 |
| SVT 5600 | 93 | 5580 | 1550 | 16100 | 3.15 | 10.1 | 36.7 | DN 150 | 1800 | 1120 | 1800 | 695 | 970 | 1196 | 970 | 940 | 2 |
| SVT 6300 | 105 | 6300 | 1750 | 16100 | 4.15 | 12.1 | 43.5 | DN 150 | 1800 | 1120 | 1800 | 695 | 970 | 1196 | 970 | 1000 | 2 |
| SVT 7200 | 120 | 7200 | 2000 | 16100 | 3.85 | 14 | 49.5 | DN 150 | 1800 | 1120 | 1800 | 695 | 970 | 1196 | 970 | 1050 | 2 |

Power Supply : 230V-1-50Hz upto SVT 630
400V-3-50 Hz SVT 870 onwards

**Our super dryers have been designed for a pressure dewpoint 3° C.**

Refrigerant : R134a from SVT 15 to SVT 1700, R404a from SVT 2100

(*) Flow given at " atmospheric pressure" at 20°C (ISO 1217) in accordance with normes ISO 7183 - 8573-1 and Pneurop 6611 - Class 4, working pressure 7 Kg/cm² - 35° C IN - 25° C ambient.

**Maximum Pressure**

- with manual drain : 40 Kg/cm²
- with automatic drain : 16 Kg/cm²

**Maximum Temperature**

- Inlet air : 70° C *
- ambient : 60° C *

**Automatic Drain**

- Timed drain (1)
- Pneumatic operated membrane valve (2)

**OPTIONS** : Just put the following suffix requested after the reference number of the dryer.

| | | | | | |
|---|---|---|---|---|---|
| HP | : Maximum pressure 40 Kg/cm² | DC | : No air loss drain | REP | : Alarm report |
| VHP | : Maximum pressure 200 Kg/cm² | SI | : Ambient temperature until -20°C | E | : Water condenser |
| V | : Vacuum operated | HDD | : Ambient temperature until +60°C | T | : Three phase power supply |

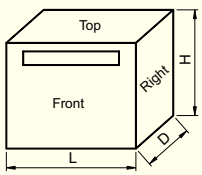
* Conditions apply please consult our tech. dept.

## CORRECTION FACTORS

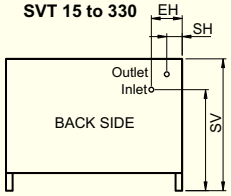
| Inlet T° °C | 30 | 35 | 40 | 45 | 50 | 60 | 70 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F1 | 0.85 | 1 | 1.18 | 1.39 | 1.67 | * | * | | | | | | |
| Ambient T° | 22 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | | | | | |
| F2 | 0.92 | 1 | 1.07 | 1.14 | 1.22 | * | * | * | | | | | |
| Pressure Kg/cm² | 0 | 1 | 2 | 4 | 6 | 7 | 8 | 10 | 12 | 14 | 16 | 20 | 50 |
| F3 | x | x | x | 1.25 | 1.06 | 1 | 0.96 | 0.9 | 0.86 | 0.82 | 0.8 | * | * |

Corrected Flow : requested flow x F1 x F2 x F3
* : Please contact us.

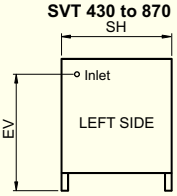
**ALL THE RANGE**



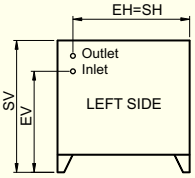

**SVT 15 to 330**



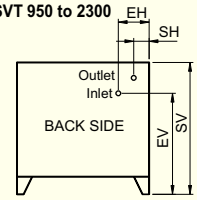

**SVT 430 to 870**



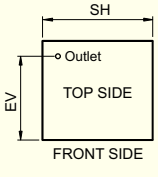

**SVT 2700 to 7200**




**SVT 950 to 2300**




**SVT 430 to 870**

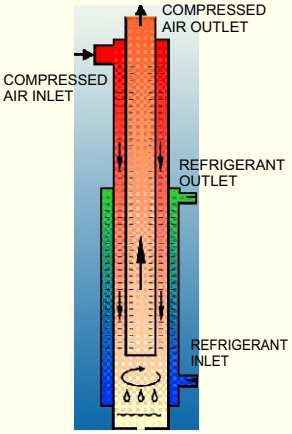


# Super Economy

**PERFORMANCES AT REAL FLOW**

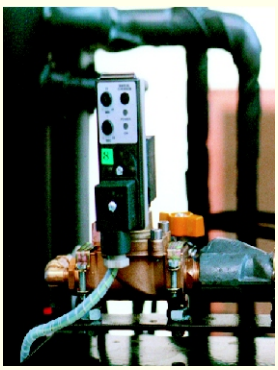
Before being fixed on the dryer, each module can be checked in real flow conditions. This test cannot be done on non modular exchangers. From simple to large multi batteries exchangers, **ProAir** guarantee the performances of all dryers. The high standards of tests are approved in collaboration with experts from the thermodynamics field.

The 3in1 exchanger




From principle....

.... To reality



Heavy duty drain

## STRONG

Thanks to a very strong and reliable design, our 3 in 1 exchanger is sold with a 5 years warranty.

## LIFE TIME

The 3 in 1 exchanger keeps freezing danger away due to precise tubes tested at 75 Kg/cm$^2$.

## COPPER WINGS

Exchange capacity is provided by numerous copper fins. These little fins offer a total exchange surface up to 10 times greater than standard ones.

## WATER SEPARATION

Located in the coldest area of the 3 in 1 exchanger, the separator works more efficiently.

## STEADY DEWPOINT GUARANTEED

Steady achievement of low dewpoint whatever the load of the machine. Moreover, whenever starting the dryer, it operates in less than 3 minutes.

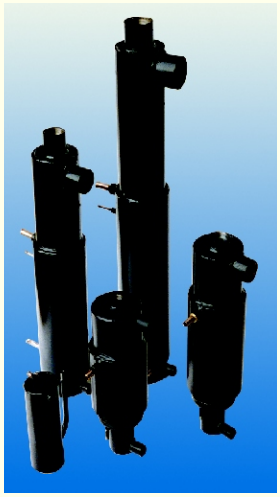
## AUTOMATIC DRAIN

The 3 in 1 separator is equipped with an automatic timed drain. Due to heavy conditions, **ProAir** has designed its own drain that allows simple and efficient operation in 3 in 1 exchanger. No sudden surprises !

## LARGE RANGE

75 models, equipped with the 3 in 1 exchanger, allow you to make the proper choice suitable for your specific needs.

A copper heart



A robust body made of tin coated steel

Elegant Design

## LOW PRESSURE DROP

Due to lower pressure drop compared with conventional machine, the 3 in 1 exchanger allows substantial saving in compressed air costs. Pay back your energy with the 3 in 1 exchanger.

## POWER SAVING

The consumption of electrical power is reduced due to an installed energy economiser. The economiser works in precooling the entering air and up to 53% saving can be achieved. Coupled with saving on low pressure drop, the 3 in 1 is a fantastic economical process.

## REDUCED SIZE

Due to its monobloc design of tubes, fitted in each other, the dimension of the exchanger is really small. This reduced size is also an asset as our dryers do not take too much place in your factory. Moreover, in and out tubing connection are on same side allowing to use less tubing.

## HIGHER EFFICIENCY

As described, the 3 in 1 offers a perfect solution for drying your air. Its efficiency is one of the most attractive in the market and offer to each user the highest “quality / cost” ratio.

## ATTRACTIVE PRICE

Due to competition, our price level is positioned at the market level. Due to high series being produced, we can offer competitive price for high end quality dryers. 3 in 1 : a technology to remember !

# OTHER ProAir PRODUCTS

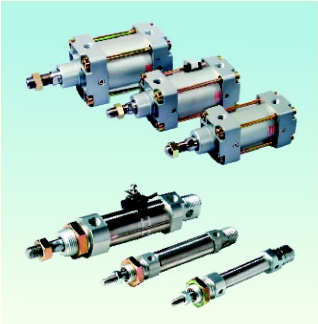
**WATER SEPARATORS**
Size : G1/4 to G3
fabricated and die cast
housings


**OIL REMOVAL FILTERS**
Size : G1/4 to G3
fabricated and die cast
housings

**ELECTRONIC DRAIN VALVES**
Size : G1/4 to G1
MOC : Brass / Aluminium

**ALTERNATIVE FILTER ELEMENTS**
To suit Ultrafilter Ltd,Domnick Hunter Ltd, Zander Ltd & Walker Ltd Filters

# COMPRESSED AIR PRODUCTS



**PNEUMATIC CYLINDERS**
Size : 6mm to 300mm
Round / ISO with magnet

**SOLENOID VALVES**
Size : M5 to 3/4" BSP
Coil with Light & Surge
Suppressor, High Flow

**AIR PROCESSING UNITS**
Size : 1/8" to 3" BSP
Filters, Regulators, Lubricators, Combinations, Silicagel / Activated Carbon Filter, Auto Drain Traps Etc.

**OTHER ACCESSORIES**
Air Guns, Non Return Valves, Speed Control Valves, Quick Exhaust Valves Etc.

# PROCESS CONTROL & OTHER RELATED PRODUCTS

**GEMU**
Butterfly, Diaphragm, Ball, Globe, Angle, Solenoid, Plastic Valves, Flow Meters & other Measuring & Controlling Equipments

**"ProAir" Filter Housings**
Gas, Air, Steam Filter Vessels

**"ProAir" Filter Housings**
Industrial & Sanitory liquid Filter Vessels

**Shah Pneumatics** has a continuous policy of product development and although the Company reserves the right to change specifications, it attempts to keep customers informed of any alterations. This publication is for general information only and customers are requested to contact our Sales Department for detailed specifications and advice on a product's suitability for specific applications. All products are sold subject to the Company's standard conditions of sale.

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**Compressed Air Treatment Products**


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