

S.H.R.®™ 4M

Air Handling Hose Retriever for PCAir Systems



The most advanced PCAir Hose Handling System

No mechanical transmission

Reduced pressure losses

Reduced dimensions

The most advanced and intelligent Hose Handling System in the market. Design is the result of long study and of field experience.

270 units in service in the world at present.

Proprietary features:

- Driving head extracting and retrieving the hose with four motor/belts assemblies VFD driven without mechanical transmission, chain, gears, shafts.
Adjustable belts pressure on hose to achieve the maximum efficiency in any condition and weather.
- External tube in anodized aluminium of different lengths depending from hose length required, total corrosion resistance and appealing appearance.
- "Tube in Tube" in stainless steel to reduce and maintain constant pressure losses.
- Control electrical cabinet in S.S. IP 65 mounted on bridge boogie for easier maintenance and control. PLC display on cabinet door. Includes the retriever controls.
- Quick disconnect connectors for easy removal of head or cabinet.
- Driving head sliding forward for easy replacement of A/C hose.
- Extended time replacement of hose, not less than two years, from field service return



Control Box

The control cabinet is installed at the bridge boogie and includes the fixed controls.

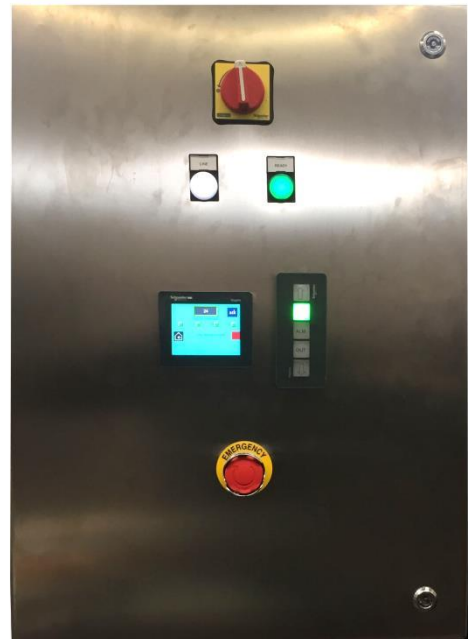
Connections to gear motors and limit switches are by removable connectors, to enable an easy disassembling of head and cabinet.

The electrical cabinet includes a

Variable Frequency Drive

controlling the gear motors, the extension speed and the overload limit.

The retriever's functions and safety are controlled by a **PLC** by Schneider Electric.



Radio Control

The radio control sender, on the aircraft adaptor, is equipped with hose extraction and retraction controls. The receiver is installed outside the control box. The radio control operates at 870 MHz civil frequency; at the start, a single transmission channel is established between sender and receiver, avoiding interference and allowing up to four retrievers to be operated simultaneously.



Limit switches

A proximity switch stops the hose when totally extracted.

A pair of photocell limit switches stop the hose when totally retracted.

Air Supply Hose and Adaptor

The aircraft supply hose is manufactured in polyester fabric, PVC coated, yellow color, with internal insulation. Hose lengths are connected, at both ends, by zip and velcro, covering and protecting the zip.

The **S.H.R.®™ 4M** can be equipped with 21 or 28 m of hose ending by a cone reduction to 200 mm inner diameter. Different hose lengths available on request.

The first, inner hose length is fixed, by a clamp, on a magnetic collar. The collar moves forward and back with the spiral hose inside the aluminium hose storage tube, around the inner channel. Its function is to center the spiral hose in respect to the inner channel, and to detect the "hose all out" condition.

S.H.R.®™ 4M Specifications

- Input power: 3x400V+G 50 Hz 6 A
(other options available)
- Control cabinet: IP 65 Stainless Steel AISI 304
- PLC Schneider control with display on cabinet door
- VFD motors control
- Limit switches of hose "all in" and "all out"
- Bridge movement interlock
- PCA ON interlock
- Extracting/ retracting speed:
variable up to 25 m /min
- Max pressure losses with 150 Kg/min airflow:
1.200 Pa
- Temperature losses with hose all extended:
2 °C at 35 °C 50% RH
- Safety interlock on cabinet door
- Overload protection (VFD)
- REM Device T3 Remote radio control on A/C adaptor (other options available)
- Lythium battery, 1000 h minimum operating life
- Sounder and light movement indicator (option)
- Operating temperature: -20 to + 60 °C
- Noise level less than 60 dbA

Standard compliance:

- 2006/42 /EC Machine Directive
- 2006/95 /EC Low Voltage Directive
- EMC Compatibility
- 2004/108/EC Electromagnetic Directive
- 99/5/EC Radio and Telecommunications

Hose:

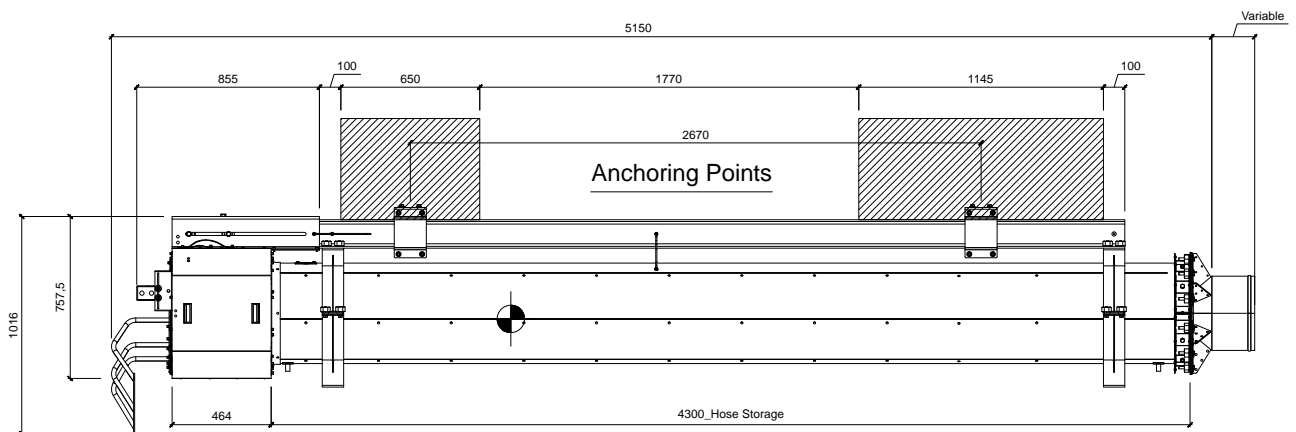
- Double yellow layer polyester 1100dtex PVC coated, 2 mm foam (optional 5mm) and air insulation, 5 mm zinc coated steel spire
- Breaking resistance: 2700 N/5cm (ISO 142/1)
- Thermal conductivity: 0.06 W/m °K
(2mm insulation)
- Flame retardant: M2/B1/BS/B-s2-d0/NFPA 70
- Service pressure: 12.000 Pa
- Test pressure: 20.000 Pa
- Adaptor: J&B Swivel or equivalent

Overall Dimensions and Weights:

21 m hose H 1016 W 910 L 4059 mm 500 Kg

28 m hose H 1016 W 910 L 4649 mm 550 Kg

Other lenghts available on request



Front

Side View

Rear

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