In the first part of this section we present the terminal units for medical gases installations, with the relevant technical information. As terminal units are intended those fixed or removable points of a medical gas distribution plant on which the user operates frequent connections and disconnections to supply the various gases for feeding the anesthesia equipment, for ventilation, oxygen therapy and medical use in general. These terminal units are designed and manufactured in accordance with various national and international standards providing operators with high standards of safety during the use. Here below the main information on terminal units range and related components are presented and illustrated, even in the special version for anesthetic gas scavenging systems or for oxygen supply in ambulances. Furthermore, we propose the probes with thread or hose connection, the outlet duplicators and the low pressure hose assemblies EN ISO 5359. Please report for a direct contact with flow-meter™ for detailed information.

The second part presents the range of accessories including a wide variety of clamp brackets for rail or floor stands, ABS wall brackets with various slide dimensions, brushed stainless steel rails complete with spacers and wall or plasterboard fasteners, medical gas hoses EN ISO 5359, catheter containers, jointed extensions and phleboclysis rods. These accessories give the possibility to complete the proposals offering the best solutions for the customer requirements, according to the different using needs in hospitals and in emergencies.
## PRODUCTS

<table>
<thead>
<tr>
<th>TERMINAL UNITS</th>
<th>112</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPONENTS</td>
<td>WALL CASES</td>
</tr>
<tr>
<td>COMPONENTS</td>
<td>OUTLETS</td>
</tr>
<tr>
<td>COMPONENTS</td>
<td>SOCKETS</td>
</tr>
<tr>
<td>DIRECTORY</td>
<td></td>
</tr>
<tr>
<td>PROBES WITH THREADED CONNECTION</td>
<td>120</td>
</tr>
<tr>
<td>PROBES WITH HOSE CONNECTION</td>
<td>121</td>
</tr>
<tr>
<td>OUTLET DUPLICATORS</td>
<td>122</td>
</tr>
<tr>
<td>EN ISO 9176-2 AGSS TYPE 1 TERMINAL UNITS</td>
<td>123</td>
</tr>
<tr>
<td>COMPONENTS</td>
<td></td>
</tr>
<tr>
<td>DIRECTORY</td>
<td></td>
</tr>
<tr>
<td>LOW PRESSURE HOSE ASSEMBLIES EN ISO 5359</td>
<td>126</td>
</tr>
<tr>
<td>RAIL CLAMPING SYSTEMS AND WALL BRACKETS</td>
<td>128</td>
</tr>
<tr>
<td>HOSES FOR MEDICAL GASES</td>
<td>130</td>
</tr>
<tr>
<td>CATHETER CONTAINERS</td>
<td>130</td>
</tr>
<tr>
<td>JOINTED EXTENSIONS</td>
<td>130</td>
</tr>
<tr>
<td>PHLEBOCLYSIS RODS</td>
<td>130</td>
</tr>
</tbody>
</table>

terminal units, rails, fixing devices, phleboclysis rods, jointed extension, low pressure hose assemblies
TERMINAL UNITS

The terminal units for medical compressed gases and vacuum are the points allowing operators in hospitals to connect medical appliances to the gas distribution systems.

**MAIN FEATURES:**
- Gas-specificity to grant safe connections
- Color code according to international standards
- Available in construction of 1 to 4 units
- According to AFNOR NF-S 90-116/NF-DS 90-119, NIST EN ISO 5359, UNI 9507, DIN 13260, BS 5682, SS 875 24 30 standards
- Possibility of surface or flush mounted installation.

**TERMINAL UNITS**

**DIN 13260 outlets**
FLUSH-MOUNTED INSTALLATION WITH DIN 13260 OUTLETS (SURFACE INSTALLATION ALSO AVAILABLE)

**BS 5682 outlets**
FLUSH-MOUNTED INSTALLATION WITH BS 5682 OUTLETS (SURFACE INSTALLATION ALSO AVAILABLE)

**SS 875 24 30 outlets**
FLUSH-MOUNTED INSTALLATION WITH SS 875 24 30 OUTLETS (SURFACE INSTALLATION ALSO AVAILABLE)

**AFNOR NF-S 90-116/NF-DS 90-119/NIST EN ISO 5359 outlets**
FLUSH-MOUNTED INSTALLATION WITH AFNOR NF-S 90-116/NF-DS 90-119/NIST EN ISO 5359 OUTLETS
**TERMINAL UNITS AND ACCESSORIES**

92- outletW

**92- OUTLETS (SURFACE INSTALLATION ALSO AVAILABLE)**

**MAIN FEATURES:**
- Gas-specificity to grant safe connections
- Color code according to international standards
- Available in construction of 1 to 4 units
- According to AFNOR NF-S 90-116/NF-DS 90-119, NIST EN ISO 5359, UNI 9507, DIN 13260, BS 5682, SS 875 24 30 standards
- Possibility of surface or flush mounted installation.

**DOWNLOAD THE PRODUCT SHEET**

---

**UNI 9507 outlets**

FLUSH-MOUNTED INSTALLATION WITH UNI 9507 OUTLETS (SURFACE INSTALLATION ALSO AVAILABLE)

---

**AFNOR NF-S 90-116/ NF-DS 90-119/NIST EN ISO 5359 outlets**

SURFACE INSTALLATION WITH AFNOR NF-S 90-116/ NF-DS 90-119/NIST EN ISO 5359 OUTLETS
TERMINAL UNITS | COMPONENTS | WALL CASES

Modular flush-mounted case, complete with disposable panel, suitable for housing AFNOR NF-S 90-116/NF-DS 90-119, UNI 9507, DIN 13260, BS 5682 and SS 875 24 30 sockets and outlets.

Shiny ABS cover panel for modular flush-mounted cases for AFNOR NF-S 90-116/NF-DS 90-119, UNI 9507, DIN 13260, BS 5682 and SS 875 24 30 type outlets. Available with 1, 2, 3 or 4 positions.

Surface mounted case, complete with varnished stainless steel cover panel, with 1, 2, 3 or 4 positions, suitable for housing AFNOR NF-S 90-116/NF-DS 90-119, UNI 9507, DIN 13260, BS 5682 and SS 875 24 30 sockets and outlets.

Gases identification labels for AFNOR NF-S 90-116/NF-DS 90-119/NIST EN ISO 5359 outlets, suitable for fitting on cover panels on modular flush-mounted cases or on surface/mounted cases.

Gases identification labels for DIN 13260, BS 5682, SS 875 24 30 outlets, suitable for fitting on cover panels on modular flush-mounted cases or on surface/mounted cases.

Plasterboard rail for modular flush-mounted cases.
Outlet type **AFNOR NF-S 90-116/NF-DS 90-119** for compressed medical gases and vacuum available in the following construction:
- with gas specific thread UNI 9507
- with thread ISO G. 1/4” M.
- with hose connector Ø 6.0 mm for compressed medical gases and with hose connector Ø 7.5 mm for vacuum.

Outlet type **NIST EN ISO 5359** for compressed medical gases and vacuum available in the following constructions:
- with gas specific thread UNI 9507
- with hose connector Ø 6.0 mm for compressed medical gases and with hose connector Ø 7.5 mm for vacuum.

Outlet type **UNI 9507 NEO** with access for simplified maintenance for compressed medical gases and vacuum available in the following constructions:
- with gas specific thread UNI 9507
- with hose connector Ø 6.0 mm for compressed medical gases and with hose connector Ø 7.5 mm for vacuum.

Outlet type **DIN 13260** for compressed medical gases and vacuum.

Outlet type **BS 5682** for compressed medical gases and vacuum.

Outlet type **SS 875 24 30** for compressed medical gases and vacuum.

Outlet type **UNI 9507** with thread for medical gases and vacuum, equipped with parking device.
Outlet socket with nut for panel mounting for compressed medical gases and vacuum with gas specific thread **UNI 9507**.

Outlet socket for compressed medical gases and vacuum with gas specific thread **UNI 9507**, complete with nut and copper welding tube nipple.

Outlet socket for compressed medical gases and vacuum for **DIN 13260, BS 5682, SS 875 24 30** outlets.

Flush-mounted case with rotating hose positioning | Back hose | Rotating hose nozzle | Back hose nozzle
**TERMINAL UNITS AND ACCESSORIES**

**TERMINAL UNITS COMPONENTS**

**DIN 13260 SOCKET CONFIGURATION**

**BS 5682 SOCKET CONFIGURATION**

**SS 875 24 30 SOCKET CONFIGURATION**
TERMINAL UNITS - DIRECTORY

FLUSH-MOUNTED INSTALLATION WITH AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359 OUTLETS

DIRECTORY - COMPONENTS DETAIL
01. Gas identification label for AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359 outlets
02. ABS panel for modular flush-mounted cases with screws
03. Outlet type ANOR NF-S 90-116 or NF-DS 90-119 or NIST EN ISO 5359
04. Socket with UNI 9507 thread
05. Modular flush-mounted case

FLUSH-MOUNTED INSTALLATION WITH UNI 9507 OUTLETS

DIRECTORY - COMPONENTS DETAIL
01. Outlet type UNI 9507
02. ABS panel for modular flush-mounted cases with screws
03. Socket with UNI 9507 thread
04. Modular flush-mounted case

FLUSH-MOUNTED INSTALLATION WITH DIN 13260, BS 5682, SS 875 24 30 OUTLETS

DIRECTORY - COMPONENTS DETAIL
01. Gas identification label for DIN 13260, BS 5682, SS 875 24 30 outlets
02. ABS panel for modular flush-mounted cases with screws
03. Outlet type DIN 13260 or BS 5682 or SS 875 24 30
04. Socket for DIN 13260, BS 5682, SS 875 24 30 outlets
05. Modular flush-mounted case
TERMINAL UNITS AND ACCESSORIES

SURFACE INSTALLATION WITH AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359 OUTLETS

DIRECTORY - COMPONENTS DETAIL
01. Gas identification label for AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359 outlets
02. Surface mounted case with screws and spacers
03. Outlet type AFNOR NF-S 90-116 or NF-DS 90-119 or NIST EN ISO 5359
04. Socket with UNI 9507 thread

SURFACE INSTALLATION WITH UNI 9507 OUTLETS

DIRECTORY - COMPONENTS DETAIL
01. Outlet type UNI 9507
02. Surface mounted case with screws and spacers
03. Socket with UNI 9507 thread

SURFACE INSTALLATION WITH DIN 13260, BS 5682, SS 875 24 30 OUTLETS

DIRECTORY - COMPONENTS DETAIL
01. Gas identification label for DIN 13260, BS 5682, SS 875 24 30 outlets
02. Surface mounted case with screws and spacers
03. Outlet type DIN 13260 or BS 5682 or SS 875 24 30
04. Socket for DIN 13260, BS 5686, SS 875 24 30 outlets
PROBES WITH THREADED CONNECTION

Probe type **AFNOR NF-S 90-116** with thread ISO G. 1/4" F.

Probe type **AFNOR NF-S 90-116 EASYFIX®** with thread ISO G. 1/4" F.

Probe type **UNI 9507** with thread ISO G. 1/4" F.

Probe type **BS 5682** with thread ISO G. 1/4" F.

Probe type **DIN 13260** with thread ISO G. 1/4" F.

Probe type **SS 875 24 30** with thread ISO G. 1/8" M. or ISO G. 1/4" F.

Probe type **JIS T 7101** with thread ISO G. 1/8" M.

Probe type **SANS 1409** with thread ISO G. 1/4" F.

Probe type **OHMEDA** with thread ISO G. 1/8" M. or ISO G. 1/4" F.
TERMINAL UNITS
AND ACCESSORIES

PROBES WITH HOSE CONNECTION

Probe type AFNOR NF-S 90-116 EASYFIX® for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type UNI 9507 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type NIST EN ISO 5359 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type BS 5682 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type DIN 13260 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type SS 875 24 30 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type JIS T 7101 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type SANS 1409 for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.

Probe type OHMEDA for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.
OUTLET DUPLICATORS

Outlet duplicator type AFNOR NF-S 90-116.

Outlet duplicator type NIST EN ISO 5359.

Outlet duplicator type UNI 9507.

Outlet duplicator type BS 5682.

Outlet duplicator type DIN 13260.

Outlet duplicator type SS 875 24 30.
EN ISO 9170-2 AGSS TYPE 1

TERMINAL UNITS

The EN ISO 9170-2 AGSS type 1 terminal units for anesthetic gas scavenging systems are the points allowing operators in hospitals to connect the appropriate quick couplings to safely dispose the exceeding anesthetic gases and vapors away from the clinical environment.

The main purpose is to minimize the pollution of the premises where anesthetics are used. Two main installation principles are available:

VENTURI TYPE | The suction system is based on the Venturi principle, on the basis of which an injector supplied with compressed air at a pressure of 4 bar, produces a constant suction (set by the installer) suitable for discharging anaesthetic gases outside the room where they are used.

BLOWER TYPE | A blower generates a constant suction inside the centralized suction system designed to eliminate the anaesthetic gases from the room where they are used; the installer can also adjust the flow discharged directly on the base block by means of a variable section connector.
EN ISO 9170-2 AGSS TYPE 1 TERMINAL UNITS | COMPONENTS

Painted stainless steel cover panel, for flush-mounted case for EN ISO 9170-2 AGSS type 1 outlet with front access for the outlet simplified calibration.

Flush-mounted case, complete with disposable panel, suitable for housing EN ISO 9170-2 AGSS type 1 sockets and outlet.

EN ISO 9170-2 AGSS type 1 outlet.

01. VENTURI TYPE | Socket for EN ISO 9170-2 AGSS type 1 outlet with Venturi system. An injector supplies compressed air at 4 bars creating a constant suction (the setting value can be adjusted during installation) suitable to eliminate the anesthetic gases from the area where they are used. Front access for the simplified calibration without need to disassemble the outlet or to open the cover panel.

02. BLOWER TYPE | Socket for EN ISO 9170-2 AGSS type 1 outlet for blower. A blower generates a constant suction inside the central system for the scavenging of anesthetic gases from the area where they are used. The flow can be adjusted during the installation directly on the socket by means of a variable section connector.

01. Probe for EN ISO 9170-2 AGSS type 1 outlet.

02. Pneumatic gauge indicating the terminal unit status, to be connected to the socket of the EN ISO 9170-2 AGSS type 1 outlet with Venturi system.

Surface mounted case, complete with varnished stainless steel cover panel, suitable for housing EN ISO 9170-2 AGSS type 1 sockets and outlets with front access for the outlet simplified calibration.
FLUSH-MOUNTED INSTALLATION FOR EN ISO 9170-2 AGSS TYPE 1 OUTLET WITH VENTURI SYSTEM

DIRECTORY - COMPONENTS DETAIL
01. EN ISO 9170-2 AGSS type 1 outlet
02. S/S cover panel with screws
03. Pneumatic gauge
04. Socket for EN ISO 9170-2 AGSS type 1 outlet with Venturi system
05. Flush-mounted case

SURFACE INSTALLATION FOR EN ISO 9170-2 AGSS TYPE 1 OUTLET WITH VENTURI SYSTEM

DIRECTORY - COMPONENTS DETAIL
01. EN ISO 9170-2 AGSS type 1 outlet
02. Surface mounted case with screws and spacers
03. Pneumatic gauge
04. Socket for EN ISO 9170-2 AGSS type 1 outlet with Venturi system

SURFACE INSTALLATION FOR EN ISO 9170-2 AGSS TYPE 1 OUTLET FOR BLOWER

DIRECTORY - COMPONENTS DETAIL
01. EN ISO 9170-2 AGSS type 1 outlet
02. Surface mounted case with screws and spacers
03. Pneumatic gauge
04. Socket for EN ISO 9170-2 AGSS type 1 outlet for blower
The low pressure hose assemblies, meeting the requirements of the Standard EN ISO 5359, are indicated for the use with the following medical gases:
- Oxygen (O₂);
- Nitrous oxide (N₂O);
- Medical air (AIR);
- Air for driving surgical tools (AIR-800);
- Vacuum (VAC).

These flexible hose assemblies can be used in a pressure range from 300 kPa to 1400 kPa for compressed medical gases and from 10 kPa to 100 kPa (absolute pressure) for vacuum. Here under some examples of suggested uses for the flexible hose assemblies:

a. Connection between terminal units and medical equipment (refer to Standards EN ISO 9170-1, EN ISO 80601-2-13 and EN ISO 80601-2-12);

b. Connection between a distribution pipeline system and one of its terminal units (refer to Standards EN ISO 7396-1 and EN ISO 11197);

c. Connection between two terminal units (refer to Standard EN ISO 7396-1);

d. Connection between an emergency supply source and a supply point for the emergency and the maintenance of a distribution pipeline system (refer to Standards EN ISO 10524-1 and EN ISO 7396-1);

e. Connection between an emergency supply point and a medical equipment (refer to Standards EN ISO 10524-1, EN ISO 80601-2-13 and EN ISO 80601-2-12).
### TECHNICAL SPECIFICATIONS | Low pressure hose assemblies EN ISO 5359

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMPRESSED MEDICAL GASES</strong></td>
<td></td>
</tr>
<tr>
<td>HOSE SIZES</td>
<td>Ø 11.5x5 mm</td>
</tr>
<tr>
<td><strong>VACUUM HOSE SIZES</strong></td>
<td>Ø 13.5x6.3 mm</td>
</tr>
<tr>
<td><strong>HOSE INNER MATERIAL</strong></td>
<td>black EPDM with antistatic treatment</td>
</tr>
<tr>
<td><strong>HOSE ARMOUR</strong></td>
<td>polyester</td>
</tr>
<tr>
<td><strong>HOSE COATING</strong></td>
<td>EPDM coloured according to the gas type</td>
</tr>
<tr>
<td><strong>COMPRESSED MEDICAL GASES</strong></td>
<td>from 300 kPa to 1400 kPa</td>
</tr>
<tr>
<td><strong>VACUUM WORKING PRESSURES</strong></td>
<td>from 10 kPa to 100 kPa (absolute pressure)</td>
</tr>
<tr>
<td><strong>STANDARD HOSE LENGTHS</strong></td>
<td>1.5 m, 2.5 m, 4.5 m for gases</td>
</tr>
<tr>
<td></td>
<td>1.5 m, 2.5 m for vacuum</td>
</tr>
</tbody>
</table>
RAIL CLAMPING SYSTEMS AND WALL BRACKETS

Universal bracket for rail 50x10 mm made of anodised aluminium.

Bracket for rail 50x10 mm made of anodised aluminium complete with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm (for medical compressed gases) or Ø 7.5 mm (for Vacuum).

Bracket for rail 50x10 mm made of anodised aluminium with slide 25x5 mm, 30x5 mm or 45x5 mm.

Universal bracket made of anodised aluminium for stand Ø 30 mm.

ABS clamp for rail 30x10 mm complete with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm (for medical gases) or Ø 7.5 mm (for Vacuum).

ABS clamp bracket for rail 30x10 mm, with slide 25x5 mm, 30x5 mm or 45x5 mm.

Chrome-plated universal bracket for rail 30x10 mm with locking knob.

Chrome-plated universal bracket for rail 30x10 mm.
Anodized aluminum wedge for OHMEDA rail clamp bracket, with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm (for medical gases) or Ø 7.5 mm (for vacuum).

Anodized aluminum OHMEDA rail clamp bracket.

Anodized aluminum wedge for OHMEDA rail clamp bracket, with slide 25x5 mm, 30x5 mm or 45x5 mm.

ABS wall bracket, slide 25x5 mm.

ABS wall bracket, slide 30x5 mm.

ABS wall bracket, slide 45x5 mm.

STAINLESS STEEL RAIL

DIRECTORY - COMPONENTS DETAIL

01. Chemical fixings
02. Plasterboard fixings
03. Rail spacer
04. Rail
05. Bolt washer
06. Bolt

Stainless steel rail 30x10 mm, brushed, with spacers and fittings, various lengths.
HOSES FOR MEDICAL GASES

Anti-squeezing hoses, according to standard EN ISO 5359, Ø 5x11.5 mm for medical compressed gases available in colors white, white-black and blue and Ø 6.3x13.5 mm for suction available in colors yellow and green.

CATHETER CONTAINERS

flow-meter™ catheter containers are accessories allowing the operators to put down in a hygienic way the suction hose during their activity. They are made with tube of polycarbonate Ø 54 mm by 400 mm length, and they are fully autoclavable (121 °C - 15 min.). Moreover these containers can be placed in a specific support ring for rail or trolley, in a single or twin construction.

JOINTED EXTENSIONS

flow-meter™ jointed extension is a system particularly suitable to support the corrugated tubes of respiratory circuits.

The jointed extension is available with or without rail clamp bracket, with one or two joints allowing an easy orientation and with a device to fix two tubes Ø 16 mm or Ø 22 mm. Thanks to the swivel joints with cogging, it is an efficient support for even considerable weights.

<table>
<thead>
<tr>
<th>Sizes of sections</th>
<th>Type with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE JOINT</td>
<td>First section: 150 mm - Second section: 450 mm</td>
</tr>
<tr>
<td>TWO JOINTS</td>
<td>First section: 150 mm - Second section: 450 mm</td>
</tr>
<tr>
<td></td>
<td>Third section: 300 mm</td>
</tr>
</tbody>
</table>

PHLEBOCLYSIS RODS

flow-meter™ phleboclysis rods are support units particularly suitable to hold the infusion bottles during the hospital therapies.

The phleboclysis rods allow an easy orientation and they can have the two following constructions:
- fixed construction, with straight or angled terminal piece and two hooks;
- extendible construction, with angled terminal piece and four hooks.

Thanks to the particularly strong structure made of chrome-plated steel, they can support even considerable weights. Different constructions are produced under request.