CMS HD
HEAVY DUTY
Multi-stage Vacuum Pumps

ADVANCED VACUUM SOLUTIONS
www.coval.com
CMS HD
Heavy Duty Multi-stage Vacuum Pumps

General Information

COVAL’s CMS HD series of multi-stage Heavy Duty vacuum pumps for industry specific applications are the result of many years of listening to and getting feedback from manufacturers, integrators, and users in the food, packaging, and robotics industries.

The CMS HD multi-stage vacuum pumps meet their expectations in terms of power, robustness, ease of configuration and use, communication, and modularity, while remaining compact and light for a simplified integration in a smart factory.

Advantages

- Robust: resistant to the harsh environments of production lines
- High performance: optimized multi-stage Venturi system that guarantees powerful suction flow rates and reduced compressed air consumption.
- Modular: configurable according to needs and easy maintenance.
- Communicating: efficient communication system for all use levels, clear and easy to read HMI, NFC technology for mobile use, and IO-Link communications interface for straightforward networking.

Main Specifications (depending on version)

- 80% vacuum
- 3 powerful suction flow rates:
  - CMSHD90X50__ → 24.54 SCFM
  - CMSHD90X100__ → 33.90 SCFM
  - CMSHD90X150__ → 45.91 SCFM
- With or without vacuum and blow-off control
- Vacuum control: NC, NO
- With or without vacuum switch
- Blow-off controlled or automatic timed
- 1 or 2 M12 connectors
- Digital inputs/outputs mode (SIO) / IO-Link
- 3 exhaust configurations
- Degree of protection: IP65
- PNP / NPN
- Supply pressure monitoring (pressure sensor)
- Supply voltage monitoring
- Vacuum network status analysis and monitoring with a network sizing tool to prevent pressure loss, as well as a clogging detection function
- Remote HMI option features the following:
  - High-visibility color display with clear multi-lingual messages and straightforward settings menu
  - Easy set up made possible by NFC technology and COVAL Vacuum Manager mobile application

A Complete Range

For each application, a suitable CMS HD:

CMSHD__NVO
- without control

CMSHD__SVOC15P / VVOC15P
- with vacuum and blow-off control
- without vacuum switch
- one M12 5-pin connector
- Digital inputs/outputs mode
- visual indicators of vacuum and blow-off controls

CMSHD__SVX_ / VVX_
- with vacuum and blow-off control
- with vacuum switch, and pressure sensor
- M12 connectors available in 3 versions:
  - one 5 or 8-pin connector
  - or two 4-pin connectors
- Digital inputs/outputs (SIO) / IO-Link Mode

Accessory: remote HMI
Part No.: HMIHD1M84P
Compatible with CMSHD____VX____
- 1.54” color LCD display
- 4-key keypad
- Can be moved up to 10 m
- NFC
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
General Information

CMS HD, "tailor-made" solution

CMSHD90X50_ / CMSHD90X100_
Simple body

CMSHD90X150_
Double body

CMSHD_NVO_
Pressure connection end plate

CMSHD_SVO / VVO_
Control valve block for vacuum and blow-off without vacuum switch

CMSHD_SVX / VVX_
Control valve block for vacuum and blow-off with vacuum switch, pressure sensor, compatible with remote HMI

CMSHD_K
Silencer

CMSHD_F
Diffuser

CMSHD_E
Collector exhaust

Remote HMI
Part No.: HMIHD1M84P

Note: Exhaust options are delivered mounted in line. They can be mounted by the user at 90° on the front panel of the CMS HD.
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
General Information

**CMS HD with control and vacuum switch**

- Vacuums generation with multi-stage Venturi pump:
  - High suction rates
  - Silent operation

- Onboard installation and diagnostic tools:
  - Vacuum network sizing support and clogging detection
  - Supply pressure and voltage monitoring

**Digital inputs/outputs (SIO) / IO-Link**

M12 connectors available in 3 versions:
- One 5 or 8-pin connector
- Or two 4-pin connectors

- NC, NO vacuum control
- Blow-off controlled or automatic timed

**Clear and efficient HMI:**
Includes all required inputs for full operation of CMS HD multi-stage vacuum pumps.

**NFC**

Straightforward setup and diagnostics made possible by NFC technology and COVAL Vacuum Manager mobile application.

**Vacuum**

- Pressure

**Exhaust**

- M8 connector for remote HMI

**Vacuum connection**

- M12 connectors available in 3 versions:
  - One 5 or 8-pin connector
  - Or two 4-pin connectors
  - NC, NO vacuum control
  - Blow-off controlled or automatic timed

**Accessory: remote HMI**

Part No.: HMIHD1M84P

- 1.54” high-visibility color LCD display with clear multilingual messages and straightforward settings menu

- Settings keypad

- Gripping status indicator light (2 colors)

**Supply pressure and voltage monitoring**

- Onboard installation and diagnostic tools:
  - Vacuum network sizing support and clogging detection
  - Supply pressure and voltage monitoring

**www.coval.com**
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
Integration and Performance

Integrated Functions
CMS HD multi-stage vacuum pumps include all the 'vacuum' functions required for an easy, efficient and economical use of compressed air and suitable for any application:

- 'Vacuum' solenoid valve
- Multi-stage Venturi pump
- Through-type silencer
- Electronic vacuum switch
- Integrated electronics
- Pressure sensor
- 'Blow-off' solenoid valve
- Removable filter screens

Primary Functions of Multi-stage Technology
Multi-stage technology consists of maximizing the energy input of the compressed air by cascading several stages of Venturi profiles and by combining their respective flows.
Intermediate valves allow the progressive isolation of each stage to obtain a maximum vacuum level.
This technology makes it possible to generate a high suction flow rate at a low vacuum level.

Performance Determined by CMS HD Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Max. vacuum (%)</th>
<th>Air drawn in (SCFM)</th>
<th>Air consumed (SCFM)</th>
<th>Air pressure level* (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMSHD90X50</td>
<td>80</td>
<td>24.54</td>
<td>7.77</td>
<td>5.5</td>
</tr>
<tr>
<td>CMSHD90X100</td>
<td>80</td>
<td>33.90</td>
<td>14.83</td>
<td>5.5</td>
</tr>
<tr>
<td>CMSHD90X150</td>
<td>80</td>
<td>45.91</td>
<td>21.90</td>
<td>5.5</td>
</tr>
</tbody>
</table>

* 6 bar for versions with control, CMSHD__S / CMSHD__V

Suction Flow / Vacuum Curves

- CMSHD90X50
- CMSHD90X100
- CMSHD90X150
The CMSHD VX Heavy Duty multi-stage vacuum pump series includes various features that enable setup, use, and diagnostics in all situations and at all levels (operators, process, networked factory), with the aim in mind of keeping the use and management of the pumps as straightforward as possible and thus allowing for their easy integration in your smart factory.

**Settings, Diagnostics and Process Data**

**CONFIGURABLE SETTINGS**
- Choice of language: EN, FR, DE, IT or ES
- "Object gripped" thresholds
- Automatic blow-off
- Vacuum measurement unit: kPa, %, mbar, inHg
- Pressure measurement unit: MPa, bar, psi
- Software updates, and more

**DIAGNOSTICS**
- Cycle counters (vacuum and blow-off control, objects gripped, objects lost, etc.)
- Vacuum network sizing support to prevent pressure loss
- Clogging detection function
- Supply pressure and voltage monitoring
- Software version
- Product part number and serial number

**PROCESS INPUT DATA**
- Vacuum and blow-off control

**PROCESS OUTPUT DATA**
- Instantaneous vacuum level
- Object gripped and object lost information
- Alarms (high/low pressure, high/low voltage)
- Instantaneous pressure

**Advantages:**
- Straightforward wiring, installation, and setup
- Availability of diagnostic status data
- Simpler preventive maintenance and vacuum pump replacement without manual setup, and more
- Onboard installation and diagnostic tools

The IO-Link system provides efficient real-time communication between CMSHD VX multi-stage vacuum pumps and any higher-level protocol (EtherNet/IP, PROFINET, EtherCAT, etc.) required to monitor the production line. It can be used to control pumps, configure settings, and get feedback to ensure maximum productivity.
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
Straightforward Communication

Remote HMI (accessory)

To make it easier to use and set up multi-stage piloted vacuum pumps, the CMS HD series has a remote HMI as an accessory.

Advantages:
- Place the HMI in an easily accessible and visible area
- Use one HMI for several CMS HD multi-stage vacuum pumps
- Copy settings from one pump to another
- Use the CMS HD multi-stage vacuum pump without any HMI connected

CMS HD multi-stage vacuum pumps compatible with the remote HMI:
- CMSHD___VX___ versions
  with M8 connector
  (electrical connections: see p. 10)

Remote HMI
Part No.: HMIH1M84P

The remote HMI allows for easy and efficient reading of the pump’s operation.

Gripping status indicator light:
- Green: object gripped
- Red: object lost

1.54" high-visibility color LCD display

Multilingual: EN - FR - DE - IT - ES

Simple and clear event messages

Intuitive settings and diagnostics menus

Configurable display orientation: 0 - 90 - 180 - 270°

Lockable to prevent undesired changes

Heavy Duty Multi-stage Vacuum Pumps
Straightforward Communication

To make it easier to use and set up multi-stage piloted vacuum pumps, the CMS HD series has a remote HMI as an accessory.

Advantages:
- Place the HMI in an easily accessible and visible area
- Use one HMI for several CMS HD multi-stage vacuum pumps
- Copy settings from one pump to another
- Use the CMS HD multi-stage vacuum pump without any HMI connected

CMS HD multi-stage vacuum pumps compatible with the remote HMI:
- CMSHD___VX___ versions
  with M8 connector
  (electrical connections: see p. 10)

Remote HMI
Part No.: HMIH1M84P

The remote HMI allows for easy and efficient reading of the pump’s operation.

Gripping status indicator light:
- Green: object gripped
- Red: object lost

1.54" high-visibility color LCD display

Multilingual: EN - FR - DE - IT - ES

Simple and clear event messages

Intuitive settings and diagnostics menus

Configurable display orientation: 0 - 90 - 180 - 270°

Lockable to prevent undesired changes
**CMS HD**

**Heavy Duty Multi-stage Vacuum Pumps**

Straightforward Communication

---

The NFC wireless technology integrated in remote HMI and in the COVAL Vacuum Manager application makes all setup and diagnostic functions available and modifiable on your mobile devices.

**Additional features:**
- Read/write settings with the power on or off
- Copy settings from one CMS HD to another
- Backup up to 5 setting configurations
- COVAL support: send a report including the settings and diagnostic data to COVAL for technical support

---

**Accessories for remote HMI**

<table>
<thead>
<tr>
<th>Front mounting plate</th>
<th>Side mounting plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 2 fastening screws</td>
<td>+ 2 fastening screws</td>
</tr>
<tr>
<td>Part No.: HMIHD1FIXA</td>
<td>Part No.: HMIHD1FIXC</td>
</tr>
</tbody>
</table>

**90° angled mounting plate**

- + 2 fastening screws
- Part No.: HMIHD1FIXB

**Connecting cable**

- M8 4-pin, female / M8 4-pin, male, compatible with cable chain
- 2 m length: Part No. CDM8MF4PL2
- 5 m length: Part No. CDM8MF4PL5
- Other lengths available upon request.

---

NFC APP: COVAL Vacuum Manager
Available for Android and iOS

---

www.coval.com
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
Modularity and Maintenance

Choice of 3 equipment options for the exhaust

Various configuration options are available for the CMS HD exhaust:

- **Through-type silencer CMSHD___K version**
  - reduction of the noise level (-10 dBA compared to a diffuser)
  - non-clogging

- **Diffuser CMSHD___F version**
  - ultra-compact

- **Exhaust collector CMSHD___E version**
  - G1" female connection

The exhaust options are delivered in-line but, depending on the environment, they can be positioned by the user on the front panel.

Modularity/Maintenance

The CMS HD multi-stage vacuum pumps have been designed to withstand the demands from all your applications and to guarantee a high level of performance. However, handling certain parts may require replacement or cleaning.

The modular design of the CMS HD multi-stage pumps ensures easy maintenance as the functions are all easily accessible.

www.coval.com
## CMS HD
### Heavy Duty Multi-stage Vacuum Pumps
#### Selection guide

**Vacuum Control: 2 Solutions**

**Model CMSHD\_S**: vacuum pump with **NC** vacuum control and **NC** blow-off control. In the event of power failure, vacuum is no longer generated. In the event of compressed air failure, the vacuum is no longer maintained.
- **NC** blow-off and vacuum control: solenoid valves
- Choice of blow-off settings (only on CMSHD\_SVX\_ models):
  - controlled by external signal
  - automatic timer from 50 to 9999 ms (advantage: saves one controller output)

**Model CMSHD\_V**: vacuum pump with **NO** vacuum control and **NC** blow-off control. In the event of power failure, vacuum is still generated: part is held in place → fail-safe.
- **NO** vacuum control solenoid valve
- **NC** blow-off control solenoid valve
- Blow-off controlled by external signal

---

### Electrical Connections

**VOC15P:**
- One M12 5-pin male connector
  1. 24 V DC suction command
  2. 24 V DC vacuum control
  3. 0 V - GND
  4. 24 V DC blow-off command

**VXC15X:**
- One M12 5-pin male connector
  1. 24 V DC suction command
  2. 24 V DC vacuum off command
  3. 0 V - GND
  4. 24 V DC blow-off command
- One M8 4-pin male connector
  → remote HMI
  1. 24 V DC
  2. RS485 (DATA+)
  3. 0 V - GND
  4. RS485 (DATA-)

**VXC18X:**
- One M12 8-pin male connector
  1. 24 V DC object gripped DO1
  2. 24 V DC
  3. /
  4. 24 V DC suction command
  5. 24 V DC object gripped DO2 - C/Q
  6. 24 V DC blow-off command
  7. 0 V - GND
  8. /
- One M8 4-pin male connector
  → remote HMI
  1. 24 V DC
  2. RS485 (DATA+)
  3. 0 V - GND
  4. RS485 (DATA-)

**VXC24X:**
- Two M12 4-pin male connectors
  1. IN
  2. 24 V DC blow-off command
  3. 0 V - GND
  4. 24 V DC suction command
- One M8 4-pin male connector
  → remote HMI
  1. 24 V DC
  2. RS485 (DATA+)
  3. 0 V - GND
  4. RS485 (DATA-)

- connections for **IO-Link**

(1) 24 V DC suction command, depending on version:
- S: 24 V DC vacuum control
- V: 24 V DC vacuum off command

---

**DO2 configurable:**
- Object lost (default)
- or Power supply fault (below 21.6 V or above 26.4 V)
- or Pressure fault (below 5 bar or above 8 bar)
**CMS HD**

Heavy Duty Multi-stage Vacuum Pumps

Configuring a Vacuum Pump

### CMS HD Without Control

**CMSHD90X 100 N VO G4 K**

<table>
<thead>
<tr>
<th>SUCTION FLOW RATE</th>
<th>24.54 SCFM</th>
<th>33.90 SCFM</th>
<th>45.91 SCFM</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXHAUST</td>
<td>K</td>
<td>E</td>
<td>F</td>
</tr>
</tbody>
</table>

Sample part number consisting of a multi-stage vacuum pump without control:

**CMSHD90X100NVOG4K**

Multi-stage vacuum pump without control, max. vacuum 80%, suction flow rate 33.90 SCFM with Through-type silencer

### CMS HD With Control

**CMSHD90X 100 S VX C15X G4 K D**

<table>
<thead>
<tr>
<th>SUCTION FLOW RATE</th>
<th>24.54 SCFM</th>
<th>33.90 SCFM</th>
<th>45.91 SCFM</th>
</tr>
</thead>
<tbody>
<tr>
<td>VACUUM SWITCH / HMI</td>
<td>VO C15P</td>
<td>VX C15X</td>
<td>G4 K D</td>
</tr>
<tr>
<td>CONNECTORS</td>
<td>One M12 5-pin male PNP</td>
<td>One M12 5-pin male configurable as PNP or NPN</td>
<td>One M8 4-pin male for remote HMI</td>
</tr>
<tr>
<td>EXHAUST*</td>
<td>K Through-type silencer</td>
<td>E Exhaust collector</td>
<td>F Diffuser</td>
</tr>
</tbody>
</table>

* Exhaust accessories are delivered mounted in line by default.

Sample part number consisting of a multi-stage vacuum pump with control:

**CMSHD90X100SVXC15XG4FD**

Multi-stage vacuum pump with control, max. vacuum 80%, suction flow rate 33.90 SCFM, NC vacuum and blow-off control, one M12 5-pin connector and one M8 4-pin connector, with diffuser

---

**Sample part number consisting of a multi-stage vacuum pump with control:**

**CMSHD90X100SVXC15XG4FD**

Multi-stage vacuum pump with control, max. vacuum 80%, suction flow rate 33.90 SCFM, NC vacuum and blow-off control, one M12 5-pin connector and one M8 4-pin connector, with diffuser

---

**www.coval.com**
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
Examples of Composed Part Numbers

**CMSHD90X50NVOG4E**
Multi-stage vacuum pump without control, max. vacuum 80%, suction flow rate 24.54 SCFM with exhaust collector.

**CMSHD90X150NVOG4K**
Multi-stage vacuum pump without control, max. vacuum 80%, suction flow rate 45.91 SCFM with through-type silencer.

**CMSHD90X100SVOC15PG4F**
Multi-stage vacuum pump with control, max. vacuum 80%, suction flow rate 33.90 SCFM, NC vacuum and blow-off control, one M12 5-pin connector, with diffuser.

**CMSHD90X100VVXC15XG4ED**
Multi-stage vacuum pump with control, max. vacuum 80%, suction flow rate 33.90 SCFM, NO vacuum control and NC blow-off control, one M12 5-pin connector and one M8 4-pin connector, with exhaust collector + remote HMI and front mounting plate.

**CMSHD90X150SVXC24XG4KD**
Multi-stage vacuum pump with control, max. vacuum 80%, suction flow rate 45.91 SCFM, NC vacuum and blow-off control, one M12 5-pin connector and one M8 4-pin connector, with through-type silencer.
CMS HD
Heavy Duty Multi-stage Vacuum Pumps
Dimensions

CMS HD Without Control

CMS HD With Control

Exhaust Options

Through-type silencer
CMSHD____K version

Exhaust collector
CMSHD____E version

Diffuser
CMSHD____F version

Note: all dimensions are in mm.

You can access 3D files of all our products in formats compatible with the main CAD software on our website www.coval.com

www.coval.com
**CMS HD**

**Heavy Duty Multi-stage Vacuum Pumps**

**Technical specifications**

- **Supply:** non-lubricated air, filtered to 5 microns, according to standard ISO 8573-1:2010 [3:4:4]
- **Operating pressure:** from 2 to 8 bar
- **Optimal dynamic pressure:**
  - CMSHD_NVO (without control): 5.5 bar
  - CMSHD_S / CMSHD_V (with control): 6 bar
- **Pressure connection:** G3/8”-F with removable 350 µm filter screen
- **Vacuum connection:** G1”-F with removable 100 µm filter screen
- **Connection for version with exhaust collector:** G1”-F
- **Materials:** PA GF, brass, aluminum, steel, NBR, PU, FKM
- **Operating temperature:** from 32 to 122° F
- **Noise level:**
  - with silencer: CMSHD90X50__K: 59 dBA
  - CMSHD90X100__K: 62 dBA
  - CMSHD90X150__K: 67 dBA
  - with diffuser (CMSHD__F version): + 10 dBA to the silencer version
- **Degree of protection:** IP65
- **Max. operating frequency:** 4 Hz
- **Endurance:** 50 million cycles
- **Weight:**
  - CMSHD without control: CMSHD__50/100: 645 g
  - CMSHD__150: 1330 g
  - CMSHD__50/100: 890 g
  - CMSHD__150: 1575 g
- **Operating temperature:** from 32 to 122° F
- **Materials:** PA GF, brass, aluminum, steel, NBR, PU, FKM
- **M12 and M8 male connectors** (depending on version)

**Integrated electronics**

- **24 V DC power supply** (regulated ±10%)
- **Vacuum measuring range:** 0 to 99%
- **Pressure measuring range:** 0 to 10 bar
- **Vacuum and pressure measurement accuracy:** ±1.5% of the range, compensated for temperature
- **Inputs/outputs protected against reversed wiring and polarity**
- **Consumption:** 170 mA max. (without load)
- **Input/Output switching mode:** PNP or PNP/NPN configurable
- **Digital inputs/outputs mode (SIO) / IO-Link**

**DO1/DO2 output signals** (only on CMSHD__VX__ models)

- Configurable as PNP or NPN
- NO or NC
- Breaking capacity: 330 mA
- DO1: object gripped output (factory setting 40%)
- DO2 configurable (see parameter settings)

**Diagnostics**

- Instantaneous vacuum level (unit transmitted over IO-Link: mbar)
- Available information: Object gripped, object lost
- Cycle counters (vacuum, blow-off, object gripped, object lost, etc.)
- Vacuum network sizing support to prevent head losses
- Clogging detection function
- Supply pressure monitoring
- Supply voltage monitoring
- Product part number and serial number
- Software version

**Indicator on model CMSHD__V0C15P__**

- **Status LED for control functions:**
  - green LED: vacuum control
  - orange LED: blow-off control

**Information displayed on remote HMI**

- **LED gripping status indicator on front panel:**
  - Green: object gripped
  - Red: object lost
- **1.54” high-visibility color LCD display:**
  - Displays vacuum level with bar graph and thresholds
  - Warns when service life has been exceeded (> 50 million cycles)
  - Explicit fault messages
  - “Suction cup” icon indicating the status of control functions:
    - Green suction cup: vacuum control
    - Orange suction cup: blow-off control
    - Red suction cup: simultaneous vacuum and blow-off control
  - Configurable display orientation: 0 - 90 - 180 - 270°

**Parameter settings available with the remote HMI or IO-Link** (only on CMSHD__VX__ models)

- **Choice of blow-off type:**
  - Controlled
  - Automatic timed, adjustable from 50 to 9999 ms
- **Object gripped (L1) control thresholds**
- **Whenever required by the application, specific threshold and hysteresis settings that are different from the initial factory settings can be defined:** L1 = 40%, h1 = 10%
- **DO2 configurable (24 V DC)** (only on CMSHD__VXC24X__ and VXC18X__ models):
  - Object lost (default)
  - Object lost (default)
  - or Power supply fault (below 21.6 V or above 26.4 V)
  - or Pressure fault (below 5 bar or above 8 bar)

**Additional settings available with the remote HMI** (performed with 4-key membrane keyboard):

- **Choice of language:** EN, FR, DE, IT, or ES
- **Choice of vacuum measurement unit** (kPa, %, mbar, inHg)
- **Choice of pressure measurement unit** (MPa, bar, psi)
- **Monostable electrical manual controls**

**Communication**

**IO-Link**

- **Revision:** 1.1
- **Transmission rate:** COM3 - 230.4 kbit/s
- **Min. cycle time:** 1 ms
- **SIO mode:** Yes
- **Process Data Input (PDI):** 6 bytes
- **Process Data Output (PDO):** 1 byte
- **IO device description file (IODD) available for download**

**NFC**

- COVAL VACUUM MANAGER Mobile app available:
  - Android, version 8.1 and higher
  - iOS, version 8.1 and higher
CMS HD
Heavy Duty Multi-stage Vacuum Pumps

Accessories

To visualize the vacuum level

Vacuum gauge Ø 40 mm
Part No. VAF11140
- Damping: by silicone movement (patented).
- Measuring: Bourdon tube in CuSn.
- Precision: cl. 2.5 (+/- 2.5% of max. scale value).
- Frame: black ABS
- Vacuum connection: G1/8”-M

Electronic vacuum switch with 3-color display with adjustable elbow connection
Part No. PSD100CPNPRCOM18G
- One M8 4-pin connector.
- 1 PNP digital output (NO or NC). Max. load current: 125 mA, Max. supply voltage: 24 VDC, Residual voltage: ≤ 1.5 V.
- 1 analog output (Output voltage: 1 to 5 V ± 2.5% F.S. (within rated pressure range), linearity: ≤ ± 1% F.S. / Output impedance: approx. 1 kΩ)
- Pressure rating range: 0 ~ -101.3 kPa.
- Pressure setting range: 10 ~ -101.3 kPa.
- Max. pressure: 300 kPa.
- Fluid: Air, non-corrosive/non-flammable gas.
- Hysteresis: adjustable.
- Response time: ≤ 2.5ms, with anti-vibration function.
- 7 segment LCD display : 2 color (red/green) main display, orange sub-display (refresh rate: 5 times/1sec.).
- Choice of pressure unit display: kPa, MPa, kgf/cm², bar, psi, InHg, mmHg.
- Power supply voltage: 12 to 24 V DC ±10%.
- Current consumption: ≤ 40mA (without load).
- Repeatability (switch output): ≤ ±0.2% F.S. ±1 digit.
- Protection: IP40.
- Ambient temperature range: 32 to 122°F (operation).
- Adjustable elbow connection 360°: G1/8”-M

Remote HMI
(for CMSHD__VX__ only)
Part No. HMIHD1M84P
- With M8 4-pin female connector, 0.3m length

Accessories for remote HMI (see details on p. 8)
- Front mounting plate: Part No. HMIHD1FIXA
- 90° angled mounting plate: Part No. HMIHD1FIXB
- Side mounting plate: Part No. HMIHD1FIXC
- M8 4-pin, female / M8 4-pin, male, connecting cable:
  - 2 m length: Part No CDMSMF4PL2
  - 5 m length: Part No CDMSMF4PL5
- Other lengths available upon request.
A TECHNOLOGICAL PARTNER ON A GLOBAL SCALE

Located in the southeast region of France, COVAL conceives, manufactures and globally distributes high performance, advanced vacuum automation components and systems for industrial applications in all branches.

COVAL is an ISO 9001: V2015 certified company which offers innovative solutions integrating reliable and optimized components with intelligent functionalities. The focus is to provide the most personalized and economic solution to a given application while assuring a significant improvement in the productivity and the safety for the vacuum users around the world.

COVAL has an ambition for technical excellence and innovation. As a specialist in vacuum automation, COVAL is reputed for offering reliable, personalized, cost effective and productive solutions.

The references of COVAL can be found in several industrial sectors (Packaging, Automotive Industry, Plastic, Graphic, Aeronautic…) where vacuum handling is important for high efficiency and productivity.

COVAL markets its products and services all over Europe, in the United States and South America through its subsidiaries and authorized distribution network. COVAL strives to provide customer driven solutions and gives the best possible treatment to satisfy all its clients.

For all enquiries from Australia, Africa and Asia kindly contact COVAL head office in France.