

Manifold Header Systems HTM02-01 / HTM2022 / ISO7396-1

SPECIFICATION

Manifold Header System

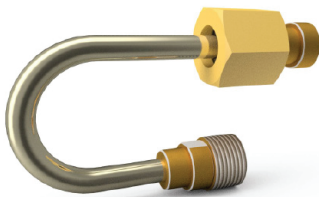
The Manifold Header Kit System shall conform to NHS Health Technical Memorandum Nos. 2022 (HTM2022), 02-01 (HTM02-01) and EN ISO7396-1.

The manifold header kit system shall provide an uninterrupted supply of a specific medical gas from equally sized high-pressure cylinder banks via a suitable arrangement of pressure regulators, providing a constant downstream nominal pipeline gauge pressure. Modular Manifolds header kit shall provide connection points for flexible cupronickel tailpipes. They shall be available in two pipe configurations named 'Header Pipe Rail Kit 1 gas' and 'Header Pipe Rail Kit 2 gases'. The combination of these configurations will generate multiple arrangements, the most used configurations are: 2x1, 2x2, 2x3, 2x4, 2x5 and 2x6 gases. Thanks to the flexibility in the modularity, the manifold header kit system can easily increase the number of cylinders capacity, and, at the same time, increase the number of variations or arrangements needed whether it's a classic wall mounted arrangement, space saving free standing arrangement or double stacked configuration.

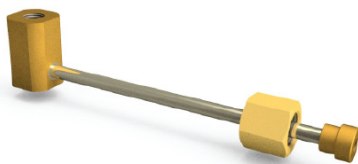
Non-return valves(NRV) shall be fitted to each tailpipe connection point to protect the system in the event of a tailpipe fracture.

Corner connectors shall be available to enable installation of manifold headers around corners of the manifold room. A custom length corner connector is available to enable header manifolds to be installed in a 'U' configuration across 3 adjacent walls of a manifold room. Alternatively, a loop connection is available to create a double stacked arrangement and could be used in both wall mounted and free-standing configuration.

Loop Connection



Corner Connector



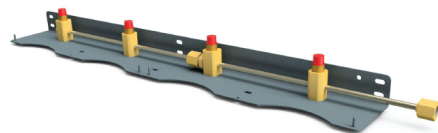
Materials

All polymers and elastomers in the gas flow that can be subjected to working pressure greater than 3,000 kPa are halogen-free. The use of PTFE, PCTFE, Viton and other halogenated polymers in these applications is strictly prohibited. Non-return valves fitted to header manifolds has a metallic seat with ceramic ball. Soft seat non-return valves utilising polymers or elastomers are not acceptable.

CE Marking

The standard range of Manifold header kit systems are 'CE' marked with approval from a notified body (more detailed information available on request).

Wall mounted configuration

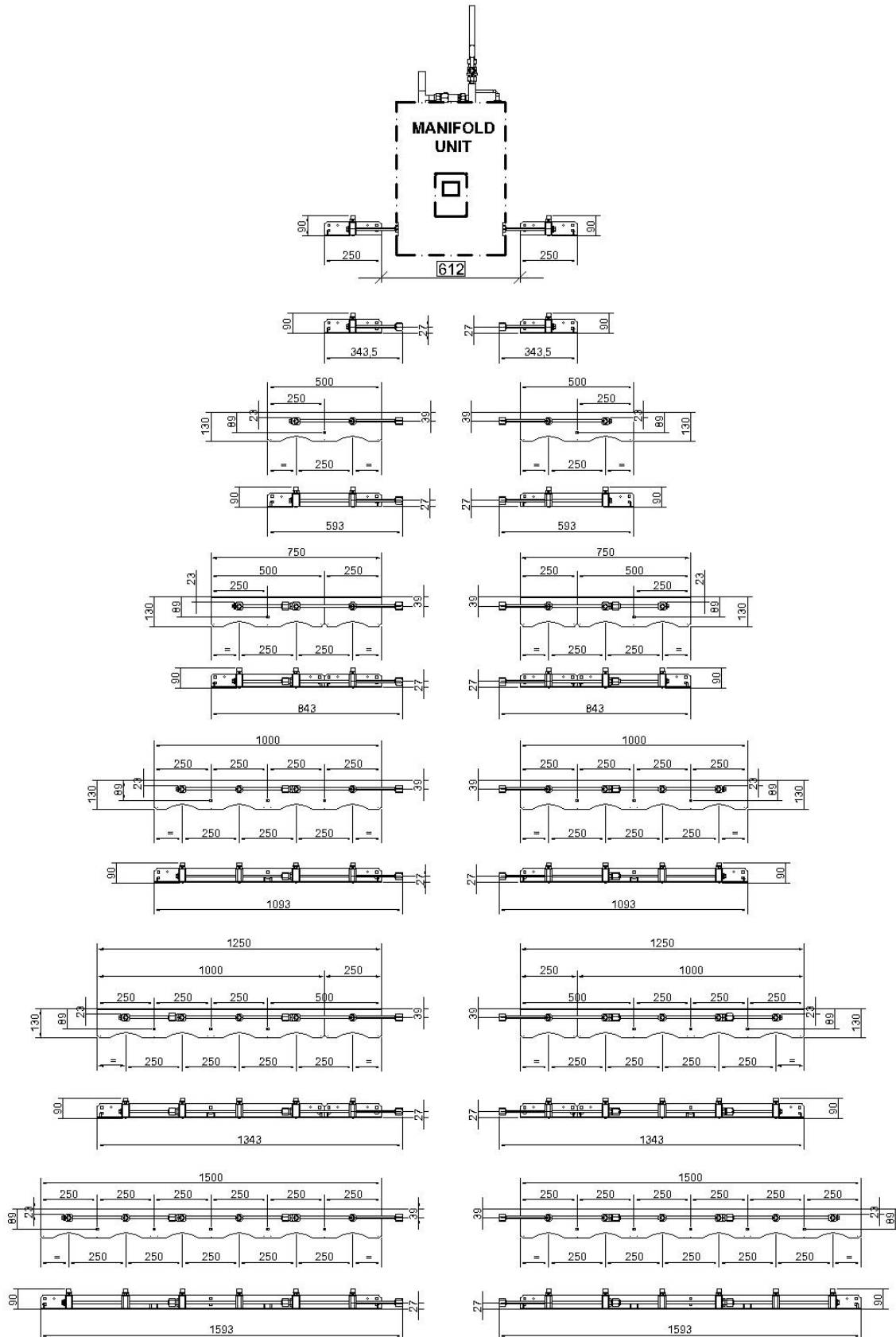


Free standing configuration





Header Arrangment Details



Tables for configurations

For a typical symmetrical arrangement, the part numbers to use are shown in Table 1.01: NEW - Generation Modular Headers Rack Table.

For a customised arrangement where independent assemblies are required (see page 16, sample config. 2) the part numbers to use are shown Table 1.02: Modular Header 1 side only.

NEW - Generation Modular Headers Rack Table

Note

Below part numbers contain headers for both sides.

Table 1.01

Gas Type	2x1	2x2	2x3	2x4	2x5	2x6
Oxygen	8102371280	8102371281	8102371282	8102371283	8102371284	8102371285
Nitrous Oxide	8102371286	8102371287	8102371288	8102371289	8102371290	8102371291
Entonox O ₂ /N ₂ O	8102371292	8102371293	8102371294	8102371295	8102371296	8102371297
Medical Air	8102371298	8102371299	8102371300	8102371301	8102371302	8102371303
Nitrogen	8102371304	8102371305	8102371306	8102371307	8102371308	8102371309
Carbon Dioxide	8102371310	8102371311	8102371312	8102371313	8102371314	8102371315

Modular Header 1 side only Table

Cylinder Connection = Cyl. Conn.

Left-hand = LH

Right-Hand = RH

Table 1.02

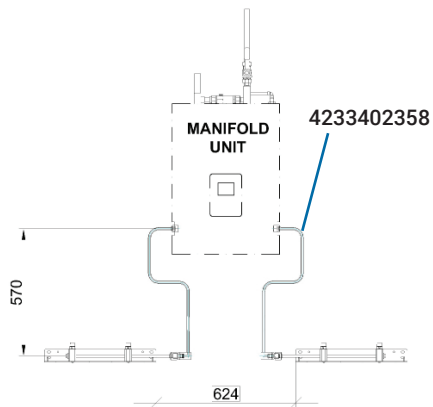
Gas Type	Cyl. Conn. 1	Cyl. Conn. 2	Cyl. Conn. 3	Cyl. Conn. 4	Cyl. Conn. 5	Cyl. Conn. 6
Oxygen	8102370396 [LH-RH]	8102370398 [LH-RH]	8102370400 [LH-RH]	8102370402 [LH-RH]	8102370404 [LH-RH]	8102370406 [LH-RH]
Nitrous Oxide	8102370425 [LH-RH]	8102370427 [LH-RH]	8102370429 [LH-RH]	8102370431 [LH-RH]	8102370433 [LH-RH]	8102370435 [LH-RH]
Entonox O ₂ /N ₂ O	8102370437 [LH-RH]	8102370439 [LH-RH]	8102370441 [LH-RH]	8102370443 [LH-RH]	8102370445 [LH-RH]	8102370447 [LH-RH]
Medical Air	8102370449 [LH-RH]	8102370451 [LH-RH]	8102370453 [LH-RH]	8102370455 [LH-RH]	8102370457 [LH-RH]	8102370459 [LH-RH]
Nitrogen	8102370461 [LH-RH]	8102370463 [LH-RH]	8102370465 [LH-RH]	8102370467 [LH-RH]	8102370469 [LH-RH]	8102370471 [LH-RH]
Carbon Dioxide	8102370473 [LH-RH]	8102370475 [LH-RH]	8102370477 [LH-RH]	8102370479 [LH-RH]	8102370481 [LH-RH]	8102370483 [LH-RH]



Header Arrangement for use with VF type Cylinders

View showing optional drop down connectors (P/N:4233402358) for use with VF type cylinders.

Figure 16



Note:

'J' type cylinders typical-ly for Oxygen and Medical Air. 'G' type cylinders typically for Nitrous Oxide and O2/N2O mix (Entonox), 'VF' size cylin-ders typically used for CO2.

Header Pipe Rail assembly kit for 1 and 2 gases

The below list shows the items used to create the double stacked arrangement.

Part Numbers (P/N) as follow:

Table 1.03

Part Number	Description
8102370485	Header Pipe_Rail Kit 1 Gas with O2 NRV LH/RH
8102370486	Header Pipe_Rail Kit 1 Gas with N2O NRV LH/RH
8102370487	Header Pipe_Rail Kit 1 Gas with O2/N2O NRV LH/RH
8102370488	Header Pipe_Rail Kit 1 Gas with MA NRV LH/RH
8102370489	Header Pipe_Rail Kit 1 Gas with N NRV LH/RH
8102370508	Header Pipe_Rail Kit 1 Gas with CO2 NRV LH/RH
8102370509	Header Pipe_Rail Kit 2 Gases with O2 NRV LH/RH
8102370510	Header Pipe_Rail Kit 2 Gases with N2O NRV LH/RH
8102370511	Header Pipe_Rail Kit 2 Gases with O2/N2O NRV LH/RH
8102370512	Header Pipe_Rail Kit 2 Gases with MA NRV LH/RH
8102370513	Header Pipe_Rail Kit 2 Gases with N NRV LH/RH
8102370514	Header Pipe_Rail Kit 2 Gases with CO2 NRV LH/RH



Illustration Rendering 2x2 gas connection



Link to old generation modular headers

It is possible to link the new generation modular header to the old by using the existing Retrofit kit. Image below shows kit items, Part number 2212020146[1], 4233402324[2], 4233402344[3] and 4233402345[4] .

Figure 17

2212020146

4233402324



OLD generation modular headers as follow

Table 1.04

Gas Type	2x1	2x2	2x3	2x4	2x5	2x6
Oxygen (O ₂)	4233402359	4233402362	4233402363	4233402328	4233402329	4233402330
Nitrous Oxide (N ₂ O)	4233402360	4233402331	4233402332	4233402333	4233402334	4233402335
Oxygen/Nitrous Oxide O ₂ /N ₂ O	4233402361	4233402364	4233402336	4233402365	4233402366	4233402337
Medical Air (N ₂)	4233402325	4233402367	4233402338	4233402339	4233402368	4233402340
Nitrogen	4233402326	4233402369	4233402370	4233402371	4233402372	4233402341
Carbon Dioxide (CO ₂)	4233402327	4233402373	4233402374	4233402375	4233402342	4233402376

Note:

Kits contain headers for both sides

Illustration of connection using the Retrofit adaptor connection.

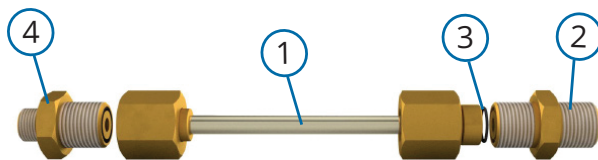
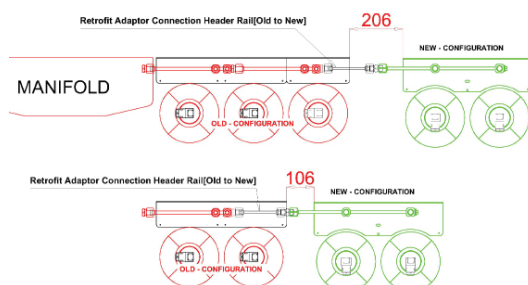


Figure 18



Old generation modular headers Image

Figure 19

4233402362

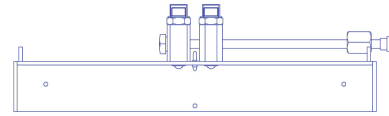


Figure 20

4233402328



Table 1.05

Part Number	Size	Description
2212020146	1	Brazed connector
4233402324	2	5/8" BSP Adaptor
4233402344	3	"O" Ring Seal
4233402345	4	3/8" x 5/8" Adaptor C/W "O" Ring

Warning:

Only use approved leak detection fluids with this product. Other leak detection fluids may contain surfactants that can impair the structural integrity of the terminal unit.



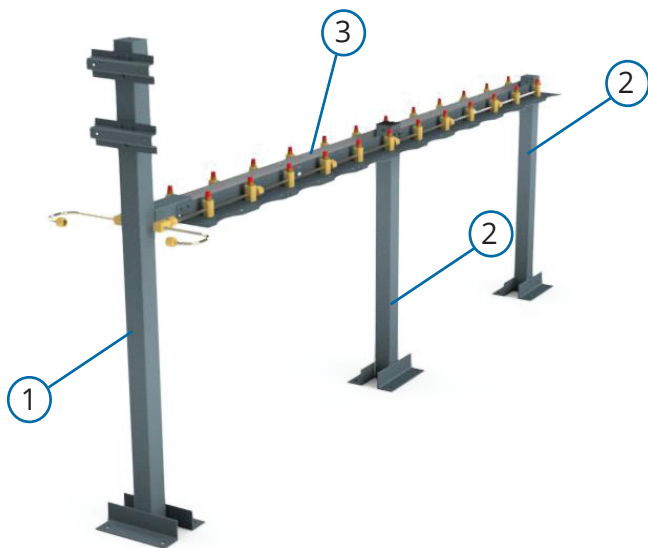
Free standing configuration

The illustration below shows the new free standing option.

The free standing assembly is a contained, optimised and space saving configuration. Main parts are:

Table 1.06

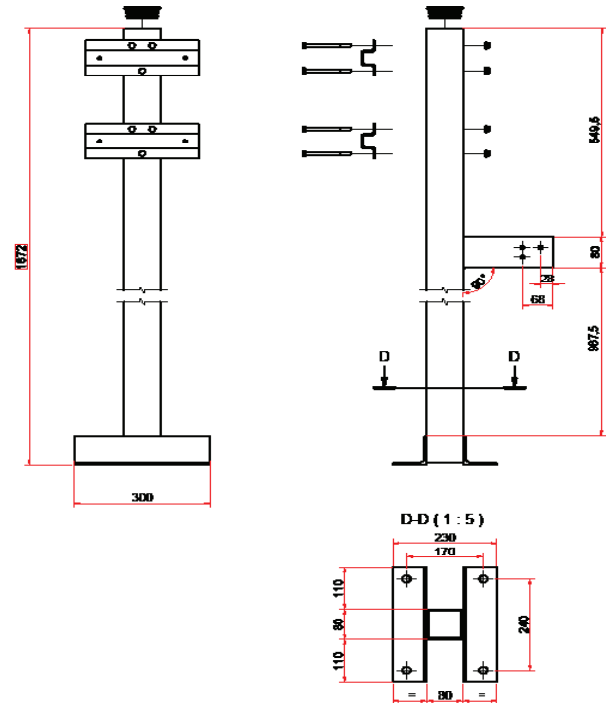
Description	Pos
Post for manifold support	1
Post for Cylinder rack support	2
Manifold Header Assembly	3



Post for manifold support with Dimension shown below.

Note:

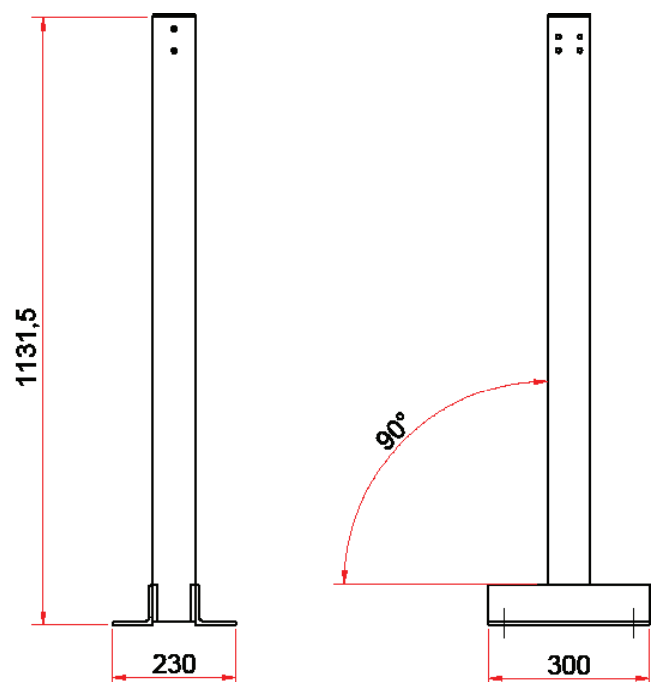
To be supplied with kit [8102370394]



Post for Cylinder rack support with Dimension shown below

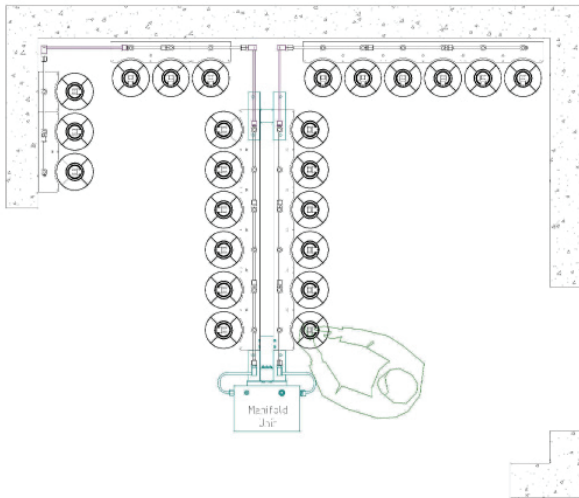
Note:

To be supplied with kit [8102370395]



Sample configuration 1

Mix between the free standing and the wall mounted arrangement.



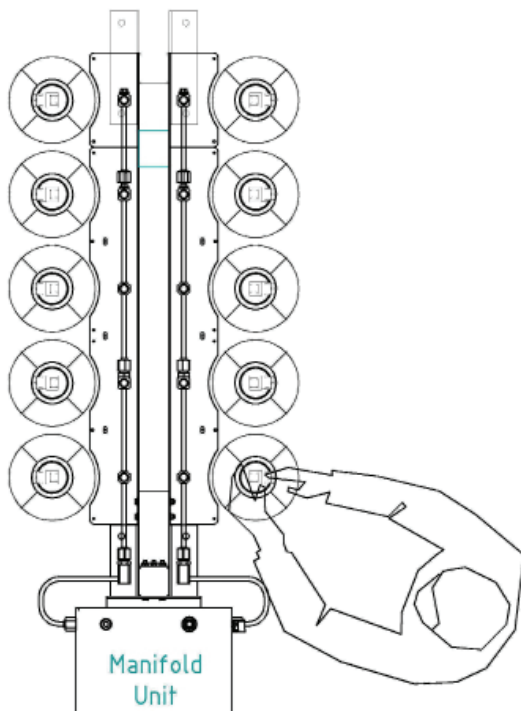
For the arrangement shown in Configuration 1, the items below are required:

Table 1.07

Part Number	Description	Qty
8102371285	Oxygen Manifold Header Rack 2x6	1
8102370406	Modular Header Rack Assembly (x6)	1
8102371282	Oxygen Manifold Header Rack 2x3	1
2212020815	(Length specified on order) Corner Connection	3
8102370394	Kit - Post for manifold supp	1
8102370395	Kit - Post for Cylind. rack supp	1
2212020787	Drop Down Connector	2

Sample configuration 2

Free standing arrangement.



For the arrangement shown in Configuration 2, the items below are required:

Table 1.08

Part Number	Description	Qty
8102371284	Oxygen Manifold Header Rack 2x5	1
8102370394	Kit - Post for manifold supp	1
8102370395	Kit - Post for Cylind. rack supp	1
2212020787	Drop Down Connector	2
2212020999	Post joint to Cylinder rack	1

