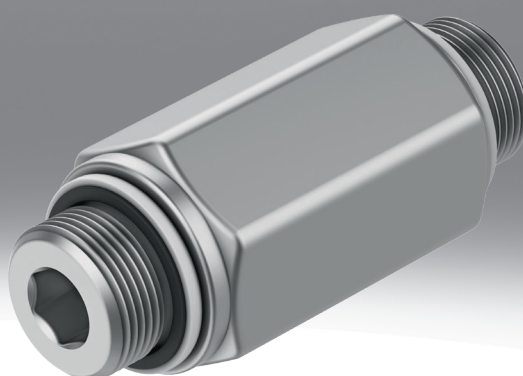


Check valve H, HA, HB

**FESTO**



## Type code

| 001       | Series                                                           |  |
|-----------|------------------------------------------------------------------|--|
| <b>H</b>  | Check valve                                                      |  |
| <b>HA</b> | Check valve, flow direction: male thread - push-in connector QS  |  |
| <b>HB</b> | Check valve, flow direction, push-in connection QS - male thread |  |

| 002          | Pneumatic connection 1  |  |
|--------------|-------------------------|--|
| <b>1/8</b>   | H: G1/2; HA/HB: R1/8    |  |
| <b>1/4</b>   | H: G1/2; HA/HB: R1/4    |  |
| <b>3/8</b>   | H: G1/2; HA/HB: R3/8    |  |
| <b>1/2</b>   | H: G1/2; HA/HB: R1/2    |  |
| <b>3/4</b>   | H: G3/4                 |  |
| <b>M5</b>    | Male thread M5          |  |
| <b>QS-4</b>  | Push-in connector 4 mm  |  |
| <b>QS-6</b>  | Push-in connector 6 mm  |  |
| <b>QS-8</b>  | Push-in connector 8 mm  |  |
| <b>QS-10</b> | Push-in connector 10 mm |  |
| <b>QS-12</b> | Push-in connector 12 mm |  |

| 003          | Pneumatic connection 2  |  |
|--------------|-------------------------|--|
| <b>1/8</b>   | Male thread G1/8        |  |
| <b>1/4</b>   | Male thread G1/4        |  |
| <b>3/8</b>   | Male thread G3/8        |  |
| <b>1/2</b>   | Male thread G1/2        |  |
| <b>3/4</b>   | Male thread G3/4        |  |
| <b>M5</b>    | Male thread M5          |  |
| <b>QS-4</b>  | Push-in connector 4 mm  |  |
| <b>QS-6</b>  | Push-in connector 6 mm  |  |
| <b>QS-8</b>  | Push-in connector 8 mm  |  |
| <b>QS-10</b> | Push-in connector 10 mm |  |
| <b>QS-12</b> | Push-in connector 12 mm |  |

## Datasheet

## Function



## Technical data – H (push-in connector)

|                                    |                                                                                            |      |      |        |       |           |         |        |         |        |        |
|------------------------------------|--------------------------------------------------------------------------------------------|------|------|--------|-------|-----------|---------|--------|---------|--------|--------|
| Pneumatic connection, port 1       | QS-4                                                                                       | QS-6 | QS-8 | QS-10  | QS-12 | QS-5/32   | QS-3/16 | QS-1/4 | QS-5/16 | QS-3/8 | QS-1/2 |
| Pneumatic connection, port 2       | QS-4                                                                                       | QS-6 | QS-8 | QS-10  | QS-12 | QS-5/32   | QS-5/16 | QS-1/4 | QS-5/16 | QS-3/8 | QS-1/2 |
| Valve function                     | Non-return function                                                                        |      |      |        |       |           |         |        |         |        |        |
| Type of mounting                   | In-line installation                                                                       |      |      |        |       |           |         |        |         |        |        |
| Operating pressure                 | -1 bar, 10 bar                                                                             |      |      |        |       |           |         |        |         |        |        |
| Min. diff. pressure, opening       | 0.1 bar                                                                                    |      |      |        |       |           |         |        |         |        |        |
| Min. diff. pressure, closing       | 0.2 bar                                                                                    |      |      |        |       |           |         |        |         |        |        |
| Note on operating and pilot medium | Lubricated operation possible (in which case lubricated operation will always be required) |      |      |        |       |           |         |        |         |        |        |
| Ambient temperature                | 0°C, 60°C                                                                                  |      |      |        |       |           |         |        |         |        |        |
| Material housing                   | Anodised aluminium                                                                         |      |      |        |       | Aluminium |         |        |         |        |        |
| Housing colour                     | Black                                                                                      |      |      | Silver |       | –         |         |        |         |        |        |
| Note on materials                  | RoHS-compliant                                                                             |      |      |        |       |           |         |        |         |        |        |
| LABS (PWIS) conformity             | VDMA24364-B1/B2-L                                                                          |      |      |        |       |           |         |        |         |        |        |

## Technical data – H (male thread)

|                                              |                                                                                            |      |                |                                           |       |       |       |
|----------------------------------------------|--------------------------------------------------------------------------------------------|------|----------------|-------------------------------------------|-------|-------|-------|
| Pneumatic connection, port 1                 | M5                                                                                         | G1/8 | G1/4           | G3/8                                      | G1/2  | G3/4  |       |
| Pneumatic connection, port 2                 | M5                                                                                         | G1/8 | G1/4           | G3/8                                      | G1/2  | G3/4  |       |
| Valve function                               | Non-return function                                                                        |      |                |                                           |       |       |       |
| Type of mounting                             | In-line installation                                                                       |      |                | Screw-in                                  |       |       |       |
| Mounting position                            | –                                                                                          |      |                | optional                                  |       |       |       |
| Max. tightening torque                       | –                                                                                          |      |                | 11 Nm                                     | 20 Nm | 40 Nm | 60 Nm |
| Operating pressure                           | 0.04 ... 0.8 MPa                                                                           |      |                | 0.04 ... 1.2 MPa                          |       |       |       |
| Operating pressure                           | 0.4 ... 8 bar                                                                              |      |                | 0.4 ... 12 bar                            |       |       |       |
| Note on operating and pilot medium           | Lubricated operation possible (in which case lubricated operation will always be required) |      |                |                                           |       |       |       |
| Ambient temperature                          | -10 ... 60°C                                                                               |      |                |                                           |       |       |       |
| Media temperature                            | -10 ... 60°C                                                                               |      |                |                                           |       |       |       |
| Pilot medium                                 | –                                                                                          |      |                | Compressed air to ISO 8573-1:2010 [7:4:4] |       |       |       |
| Corrosion resistance class CRC <sup>1)</sup> | –                                                                                          |      |                | 2 - Moderate corrosion stress             |       |       |       |
| Material housing                             | Brass                                                                                      |      |                | Anodised wrought aluminium alloy          |       |       |       |
| Note on materials                            | RoHS-compliant                                                                             | –    | RoHS-compliant |                                           |       |       |       |
| LABS (PWIS) conformity                       | VDMA24364-B2-L                                                                             |      |                |                                           |       |       |       |

1) More information visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

## Datasheet

## Technical data – HA (flow direction male thread → push-in connector QS)

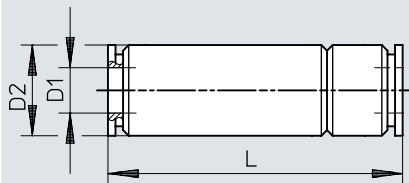
|                                    |                                                                                            |                      |              |                    |       |              |                                         |                              |                   |         |
|------------------------------------|--------------------------------------------------------------------------------------------|----------------------|--------------|--------------------|-------|--------------|-----------------------------------------|------------------------------|-------------------|---------|
| Pneumatic connection, port 1       | M5                                                                                         | R1/8                 | R1/4         | R3/8               | R1/2  | 10-32 UNF-2A | 1/8 NPT                                 | 1/4 NPT                      | 3/8 NPT           | 1/2 NPT |
| Pneumatic connection, port 2       | QS-4                                                                                       | QS-4<br>QS-6<br>QS-8 | QS-6<br>QS-8 | QS-10<br>QS-12     | QS-12 | QS-5/32      | QS-5/32<br>QS-3/16<br>QS-1/4<br>QS-5/16 | QS-3/16<br>QS-1/4<br>QS-5/16 | QS-3/8            |         |
| Valve function                     | Non-return function                                                                        |                      |              |                    |       |              |                                         |                              |                   |         |
| Type of mounting                   | Screw-in                                                                                   |                      |              |                    |       |              |                                         |                              |                   |         |
| Operating pressure                 | -1 ... 10 bar                                                                              |                      |              |                    |       |              |                                         |                              |                   |         |
| Min. diff. pressure, opening       | 0.1 bar                                                                                    |                      |              |                    |       |              |                                         |                              |                   |         |
| Min. diff. pressure, closing       | 0.2 bar                                                                                    |                      |              |                    |       |              |                                         |                              |                   |         |
| Note on operating and pilot medium | Lubricated operation possible (in which case lubricated operation will always be required) |                      |              |                    |       |              |                                         |                              |                   |         |
| Ambient temperature                | 0 ... 60°C                                                                                 |                      |              |                    |       |              |                                         |                              |                   |         |
| Material housing                   | Brass, nickel-plated                                                                       |                      |              | Anodised aluminium |       | Brass        |                                         |                              |                   |         |
| Housing colour                     | –                                                                                          |                      |              | Silver             |       | –            |                                         |                              |                   |         |
| Note on materials                  | RoHS-compliant                                                                             |                      |              |                    |       |              |                                         |                              |                   |         |
| LABS (PWIS) conformity             | VDMA24364-B1/B2-L                                                                          |                      |              |                    |       |              | VDMA24364-B2-L<br>VDMA24364-B1/B2-L     |                              | VDMA24364-B1/B2-L |         |

## Technical data – HB (flow direction plug connection QS → male thread)

| Technical data - 1/2 (flow direction plug connection QS → male thread) |                                                                                            |              |      |                    |              |                                          |                    |                   |         |                                          |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------|------|--------------------|--------------|------------------------------------------|--------------------|-------------------|---------|------------------------------------------|
| Pneumatic connection, port 1                                           | QS-4                                                                                       | QS-6         | QS-8 | QS-10              | QS-12        | QS-5/32                                  | QS-3/16            | QS-1/4            | QS-5/16 | QS-3/8                                   |
| Pneumatic connection, port 2                                           | M5<br>R1/8                                                                                 | R1/8<br>R1/4 |      | R3/8               | R3/8<br>R1/2 | 10-32 UNF-<br>2A<br>1/8 NPT              | 1/8 NPT<br>1/4 NPT |                   |         | 3/8 NPT<br>1/2 NPT                       |
| Valve function                                                         | Non-return function                                                                        |              |      |                    |              |                                          |                    |                   |         |                                          |
| Type of mounting                                                       | Screw-in                                                                                   |              |      |                    |              |                                          |                    |                   |         |                                          |
| Operating pressure                                                     | -1 ... 10 bar                                                                              |              |      |                    |              |                                          |                    |                   |         |                                          |
| Min. diff. pressure, opening                                           | 0.1 bar                                                                                    |              |      |                    |              |                                          |                    |                   |         |                                          |
| Min. diff. pressure, closing                                           | 0.2 bar                                                                                    |              |      |                    |              |                                          |                    |                   |         |                                          |
| Note on operating and pilot medium                                     | Lubricated operation possible (in which case lubricated operation will always be required) |              |      |                    |              |                                          |                    |                   |         |                                          |
| Ambient temperature                                                    | 0 ... 60°C                                                                                 |              |      |                    |              |                                          |                    |                   |         |                                          |
| Material housing                                                       | Brass, nickel-plated                                                                       |              |      | Anodised aluminium |              | Brass                                    |                    |                   |         |                                          |
| Housing colour                                                         | –                                                                                          |              |      | Silver             |              | –                                        |                    |                   |         |                                          |
| Note on materials                                                      | RoHS-compliant                                                                             |              |      |                    |              |                                          |                    |                   |         |                                          |
| LABS (PWIS) conformity                                                 | VDMA24364-B1/B2-L                                                                          |              |      |                    |              | VDMA24364-B2-L<br>VD-<br>MA24364-B1/B2-L | VDMA24364-B2-L     | VDMA24364-B1/B2-L |         | VDMA24364-B2-L<br>VD-<br>MA24364-B1/B2-L |

## Dimensions

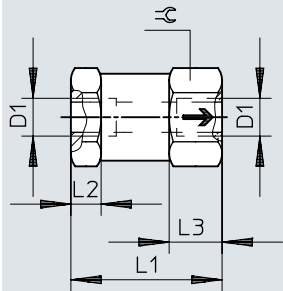
### Dimensions – Push-in connector

[Download CAD data](#) [www.festo.com](http://www.festo.com)


|         | D1 | D2<br>ø | L    |
|---------|----|---------|------|
| H-QS-4  | 4  | 9       | 34,8 |
| H-QS-6  | 6  | 12      | 38,8 |
| H-QS-8  | 8  | 15      | 54,9 |
| H-QS-10 | 10 | 25      | 73,4 |
| H-QS-12 | 12 | 25      | 78,6 |

Dimensions

Dimensions – H-M5 Download CAD data [www.festo.com](http://www.festo.com)

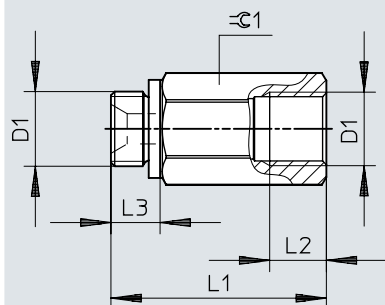


|      | D1 | L1 | L2 | L3 | ⌀  |
|------|----|----|----|----|----|
| H-M5 | M5 | 20 | 4  | 7  | 11 |

## Dimensions

Dimensions – H-1/8-A/I

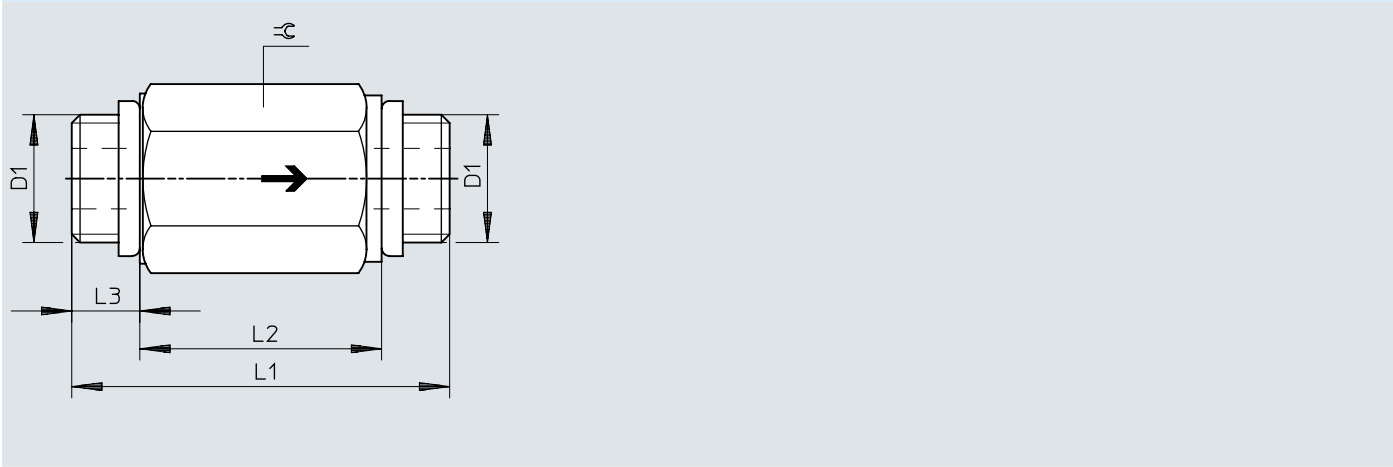
Download CAD data [www.festo.com](http://www.festo.com)



|           | D1   | L1   | L2  | L3  | ≡  |
|-----------|------|------|-----|-----|----|
| H-1/8-A/I | G1/8 | 28,5 | 7,5 | 6,5 | 13 |

Dimensions

Dimensions – H-...-B Download CAD data [www.festo.com](http://www.festo.com)

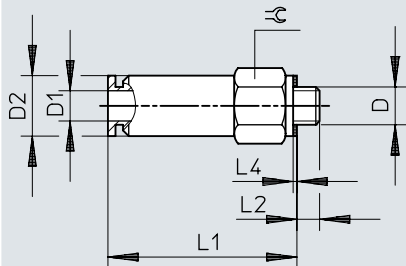


|         | D1   | L1 | L2 | L3   | ≙  |
|---------|------|----|----|------|----|
| H-1/4-B | G1/4 | 48 | 32 | 8    | 19 |
| H-3/8-B | G3/8 | 50 |    | 9    | 22 |
| H-1/2-B | G1/2 | 65 | 44 | 10,5 | 27 |
| H-3/4-B | G3/4 | 74 | 50 | 12   | 32 |



## Dimensions

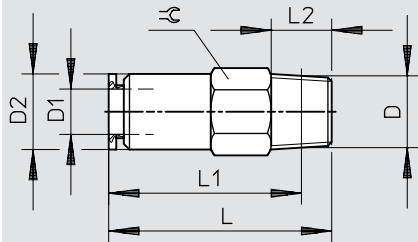
### Dimensions – HA/HB-M5-QS

[Download CAD data](http://www.festo.com) [www.festo.com](http://www.festo.com)


|               | D  | D1<br>Ø | D2<br>Ø | L1   | L2 | L4  | ↻ |
|---------------|----|---------|---------|------|----|-----|---|
| HA/HB-M5-QS-4 | M5 | 4       | 8       | 25,4 | 3  | 0,5 | 8 |

## Dimensions

Dimensions – HA/HB-...-QS

Download CAD data [www.festo.com](http://www.festo.com)

|                 | D    | D1<br>ø | D2<br>ø | L    | L1   | L2 | ≡  |
|-----------------|------|---------|---------|------|------|----|----|
| HA/HB-1/8-QS-4  | R1/8 | 4       | 9       | 24,5 | 20,5 | 8  | 10 |
| HA/HB-1/8-QS-6  | R1/8 | 6       | 10      | 29,3 | 25,3 | 8  | 10 |
| HA/HB-1/8-QS-8  | R1/8 | 8       | 13,5    | 35,5 | 31,5 | 8  | 14 |
| HA/HB-1/4-QS-6  | R1/4 | 6       | 12      | 29,3 | 23,3 | 11 | 14 |
| HA/HB-1/4-QS-8  | R1/4 | 8       | 13,5    | 39,2 | 33,2 | 11 | 14 |
| HA/HB-3/8-QS-10 | R3/8 | 10      | 25      | 61,7 | 55,4 | 12 | 24 |
| HA/HB-3/8-QS-12 | R3/8 | 12      | 25      | 64,3 | 58   | 12 | 24 |
| HA/HB-1/2-QS-12 | R1/2 | 12      | 28      | 70,8 | 62,6 | 15 | 27 |

## Ordering data

**H – Push-in connector**

|                                                                                   | Pneumatic connection, port 1 <sup>1)</sup> | Pneumatic connection, port 2 | Standard nominal flow rate (standardised to DIN 1343) | Product weight | Part no. | Type         |
|-----------------------------------------------------------------------------------|--------------------------------------------|------------------------------|-------------------------------------------------------|----------------|----------|--------------|
|  | QS-4                                       | QS-4                         | 136 l/min                                             | 5.3 g          | 153462   | H-QS-4       |
|                                                                                   | QS-6                                       | QS-6                         | 282 l/min                                             | 10 g           | 153463   | H-QS-6       |
|                                                                                   | QS-8                                       | QS-8                         | 681 l/min                                             | 21 g           | 153464   | H-QS-8       |
|                                                                                   | QS-10                                      | QS-10                        | 1,480 l/min                                           | 63 g           | 153465   | H-QS-10      |
|                                                                                   | QS-12                                      | QS-12                        | 1,715 l/min                                           | 69 g           | 153466   | H-QS-12      |
|                                                                                   | QS-5/32                                    | QS-5/32                      | 139 l/min                                             | 5.3 g          | 190841   | H-QSM-5/32-U |
|                                                                                   | QS-3/16                                    | QS-5/16                      | 189 l/min                                             | 10 g           | 190842   | H-QSM-3/16-U |
|                                                                                   | QS-1/4                                     | QS-1/4                       | 314 l/min                                             | 14 g           | 190843   | H-QS-1/4-U   |
|                                                                                   | QS-5/16                                    | QS-5/16                      | 754 l/min                                             | 21 g           | 190844   | H-QS-5/16-U  |
|                                                                                   | QS-3/8                                     | QS-3/8                       | 1,550 l/min                                           | 62 g           | 190845   | H-QS-3/8-U   |
|                                                                                   | QS-1/2                                     | QS-1/2                       | 2,000 l/min                                           | 68 g           | 190846   | H-QS-1/2-U   |

1) H-...-U: for North America only

**H – male thread**

|                                                                                    | Pneumatic connection, port 1 | Standard nominal flow rate (standardised to DIN 1343) | Standard nominal flow rate 1->2 (6-5) | Product weight | Part no. | Type      |
|------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------|---------------------------------------|----------------|----------|-----------|
|  | M5                           | 115 l/min                                             |                                       |                | 3671     | H-M5      |
|                                                                                    | G1/8                         | 280 l/min                                             |                                       | 21 g           | 3324     | H-1/8-A/I |
|                                                                                    | G1/4                         |                                                       | 1,000 l/min                           | 25.4 g         | 11689    | H-1/4-B   |
|                                                                                    | G3/8                         |                                                       | 2,000 l/min                           | 34 g           | 11690    | H-3/8-B   |
|                                                                                    | G1/2                         |                                                       | 5,500 l/min                           | 58.3 g         | 11691    | H-1/2-B   |
|                                                                                    | G3/4                         |                                                       | 5,900 l/min                           | 101 g          | 11692    | H-3/4-B   |

**HA – Flow direction male thread → Push-in connector QS**

|                                                                                     | Pneumatic connection, port 1 <sup>1)</sup> | Pneumatic connection, port 2 | Standard nominal flow rate (standardised to DIN 1343) | Product weight | Part no. | Type                    |
|-------------------------------------------------------------------------------------|--------------------------------------------|------------------------------|-------------------------------------------------------|----------------|----------|-------------------------|
|  | M5                                         | QS-4                         | 148 l/min                                             | 7.2 g          | 153444   | HA-M5-QS-4              |
|                                                                                     | R1/8                                       |                              | 138 l/min                                             | 11 g           | 153446   | HA-1/8-QS-4             |
|                                                                                     |                                            | QS-6                         | 311 l/min                                             |                | 153448   | HA-1/8-QS-6             |
|                                                                                     |                                            | QS-8                         | 331 l/min                                             | 22 g           | 153452   | HA-1/8-QS-8             |
|                                                                                     | R1/4                                       | QS-6                         | 302 l/min                                             | 23 g           | 153450   | HA-1/4-QS-6             |
|                                                                                     |                                            | QS-8                         | 670 l/min                                             | 24 g           | 153454   | HA-1/4-QS-8             |
|                                                                                     | R3/8                                       | QS-10                        | 1,740 l/min                                           | 47 g           | 153456   | HA-3/8-QS-10            |
|                                                                                     |                                            | QS-12                        | 1,876 l/min                                           | 50 g           | 153458   | HA-3/8-QS-12            |
|                                                                                     | R1/2                                       |                              | 2,230 l/min                                           | 69 g           | 153460   | HA-1/2-QS-12            |
|                                                                                     | 10-32 UNF-2A                               | QS-5/32                      | 143 l/min                                             | 7.2 g          | 190847   | HA-10-32-UNF-QSM-5/32-U |
|                                                                                     | 1/8 NPT                                    |                              | 146 l/min                                             | 12 g           | 190848   | HA-1/8-QSM-5/32-U       |
|                                                                                     |                                            | QS-3/16                      | 238 l/min                                             | 13 g           | 190849   | HA-1/8-QSM-3/16-U       |
|                                                                                     |                                            | QS-1/4                       | 313 l/min                                             | 21 g           | 190850   | HA-1/8-QS-1/4-U         |
|                                                                                     |                                            | QS-5/16                      | 331 l/min                                             | 22 g           | 190851   | HA-1/8-QS-5/16-U        |
|                                                                                     | 1/4 NPT                                    | QS-3/16                      | 238 l/min                                             | 24 g           | 190852   | HA-1/4-QSM-3/16-U       |
|                                                                                     |                                            | QS-1/4                       | 326 l/min                                             | 27 g           | 190853   | HA-1/4-QS-1/4-U         |
|                                                                                     |                                            | QS-5/16                      | 766 l/min                                             | 24 g           | 190854   | HA-1/4-QS-5/16-U        |
|                                                                                     | 3/8 NPT                                    | QS-3/8                       | 1,700 l/min                                           | 48 g           | 190855   | HA-3/8-QS-3/8-U         |
|                                                                                     | 1/2 NPT                                    |                              | 1,800 l/min                                           | 67 g           | 190856   | HA-1/2-QS-3/8-U         |

1) HA-...-U: only for North America

## Ordering data

| HB – Flow direction push-in connector QS → male thread                           |                                            |                              |                                                       |                |          |                         |
|----------------------------------------------------------------------------------|--------------------------------------------|------------------------------|-------------------------------------------------------|----------------|----------|-------------------------|
|                                                                                  | Pneumatic connection, port 1 <sup>1)</sup> | Pneumatic connection, port 2 | Standard nominal flow rate (standardised to DIN 1343) | Product weight | Part no. | Type                    |
|  | QS-4                                       | M5                           | 144 l/min                                             | 7.2 g          | 153445   | HB-M5-QS-4              |
|                                                                                  | QS-6                                       | R1/8                         | 142 l/min                                             | 11 g           | 153447   | HB-1/8-QS-4             |
|                                                                                  |                                            |                              | 335 l/min                                             |                | 153449   | HB-1/8-QS-6             |
|                                                                                  | QS-8                                       | R1/4                         | 294 l/min                                             | 23 g           | 153451   | HB-1/4-QS-6             |
|                                                                                  |                                            |                              |                                                       |                | 153453   | HB-1/8-QS-8             |
|                                                                                  | QS-10                                      | R1/4                         | 696 l/min                                             | 24 g           | 153455   | HB-1/4-QS-8             |
|                                                                                  |                                            |                              |                                                       |                | 153457   | HB-3/8-QS-10            |
|                                                                                  | QS-12                                      | R3/8                         | 1,700 l/min                                           | 47 g           | 153459   | HB-3/8-QS-12            |
|                                                                                  |                                            |                              |                                                       |                | 153461   | HB-1/2-QS-12            |
|                                                                                  | QS-5/32                                    | 10-32 UNF-2A                 | 145 l/min                                             | 7.2 g          | 190857   | HB-10-32-UNF-QSM-5/32-U |
|                                                                                  |                                            | 1/8 NPT                      | 150 l/min                                             | 12 g           | 190858   | HB-1/8-QSM-5/32-U       |
|                                                                                  | QS-3/16                                    |                              | 216 l/min                                             | 13 g           | 190859   | HB-1/8-QSM-3/16-U       |
|                                                                                  |                                            | 1/4 NPT                      |                                                       | 24 g           | 190862   | HB-1/4-QSM-3/16-U       |
|                                                                                  | QS-1/4                                     | 1/8 NPT                      | 303 l/min                                             | 21 g           | 190860   | HB-1/8-QS-1/4-U         |
|                                                                                  |                                            | 1/4 NPT                      | 304 l/min                                             | 27 g           | 190863   | HB-1/4-QS-1/4-U         |
|                                                                                  | QS-5/16                                    | 1/8 NPT                      | 330 l/min                                             | 22 g           | 190861   | HB-1/8-QS-5/16-U        |
|                                                                                  |                                            | 1/4 NPT                      | 739 l/min                                             | 24 g           | 190864   | HB-1/4-QS-5/16-U        |
|                                                                                  | QS-3/8                                     | 3/8 NPT                      | 1,550 l/min                                           | 48 g           | 190865   | HB-3/8-QS-3/8-U         |
|                                                                                  |                                            | 1/2 NPT                      | 1,650 l/min                                           | 67 g           | 190866   | HB-1/2-QS-3/8-U         |

1) HB-...-U: for North America only