

Breathing air

The breath of performance





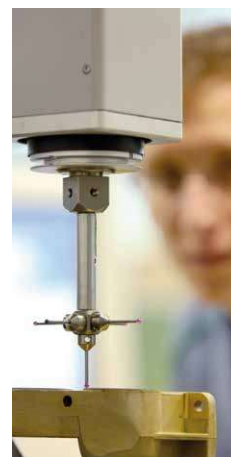
Safety right along the line,

For more than 20 years, Stäubli has been developing a comprehensive programme dedicated to the Breathing Air supply lines for all your personal protective equipment.

Stäubli choice: living up to expectations!

- guarantee of performance, our Breathing Air range benefits from more than 50 years of expertise in fluid connection technology and from an excellent understanding of your applications.
- true partners in your projects, our experts will duly advise you, providing efficient and innovative solutions.
- safety mastered in all aspects with a comprehensive range, incorporating supply, connection, filtering and distribution functions, as well as others.

Stäubli: your project partner!



Constantly seeking innovation



■ Specific breathing air connection profile: cannot be connected to other types of couplings.





performance across the whole range

Stäubli quality, a guarantee of your safety!

Real lifelines, your Breathing Air lines must be perfectly reliable.

Our answer to such demands lies in the complete Breathing Air range, benefiting from enhanced quality-control procedures:

- compliance with standards and regulations
- compliance with safety standards (EN 12 021, EN 14 594, EN 14 593-1 and EN 14 593-2)*
- blue colour for visual identification
- taking account of the conditions of use and environment
- mechanical keying of the circuits
- strong materials
- dedicated inspection procedures and equipment
- individual operation and leak-tightness tests
- yearly / weekly batch identification.

C o n t e n t s

Applications	Products	Pages
Principle of breathing air supply		4 & 5
Connection to the instrument or breathing air circuits	• AQR 08, AQR 11 and AQR 19 quick couplings	6 to 11
Direct connection to Personal Protective Equipment (masks, half suits and ventilated suits)	• AQR 06 quick couplings	6 to 11
Connection for supply to distribution equipment and filtering units	• AQR 11 and AQR 19 quick couplings	6 to 11
Comprehensive solutions with flexible tubing equipped to receive Breathing Air	• TQR decontaminable flexible tubing • HQR spiral hosing	12 to 15
Transformation of instrumentation air into Breathing Air	• BQR 180 filter unit	16 to 19
Simultaneous supply to several PPE	• DQR manifold unit	20 & 21
Hose reels for the flexible tubing supplying Breathing Air	• EQR automatic and manual hose reels	22 & 23

* Our equipment consists of components. As such, it is your responsibility to:

- identify the standards and regulations applicable to your installation
- ensure that the components are correctly incorporated into your installation
- check that your installation complies with the applicable legislation.

From the breathing air circuit to the personal protective equipment (PPE): Stäubli safety and performance



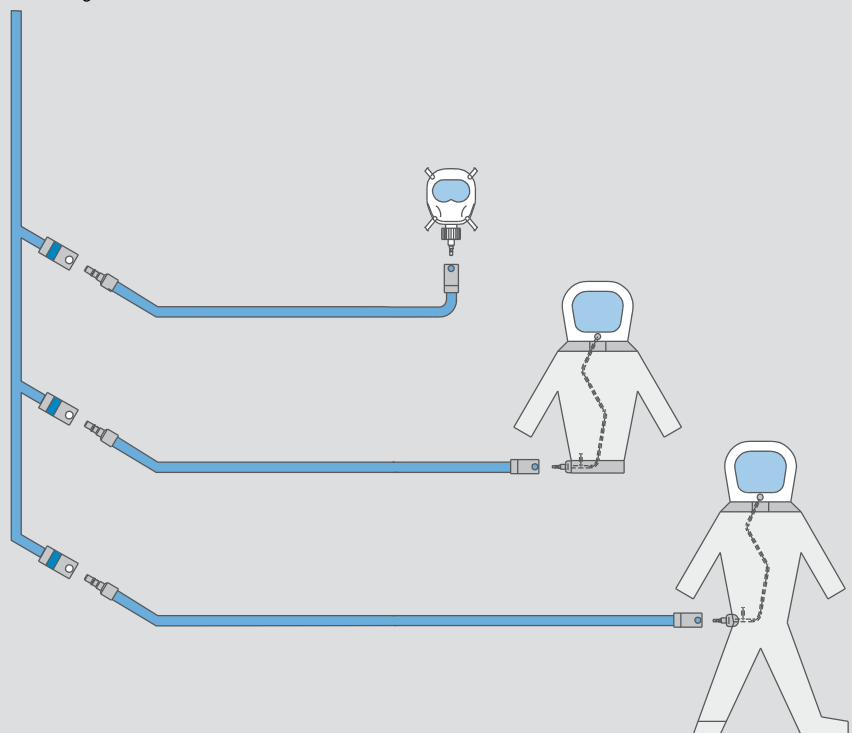
Reminder

To be qualified as "Breathing air", it is necessary that the air of your circuit fills the conditions below:

- ☑ Filtration of gases
CO and CO₂
- ☑ Drying of air
- ☑ Elimination of sprays and vapors of oil
- ☑ Deletion of the solid particles
- ☑ Elimination of odours

Direct connection from the PPE to the breathing air circuit

Breathing air circuit



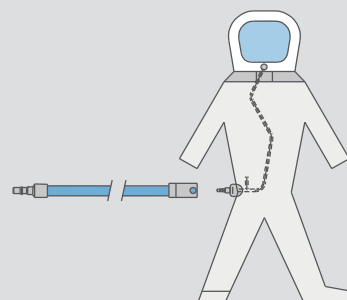
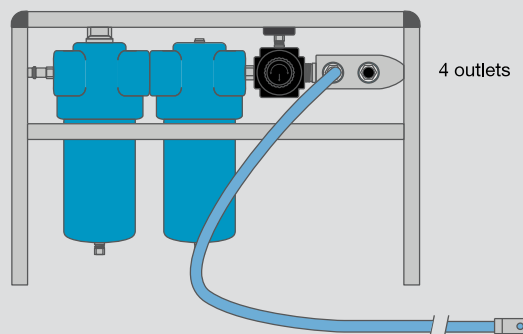
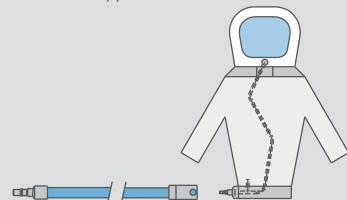
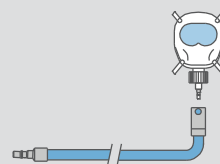
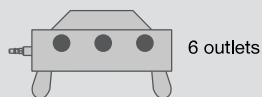
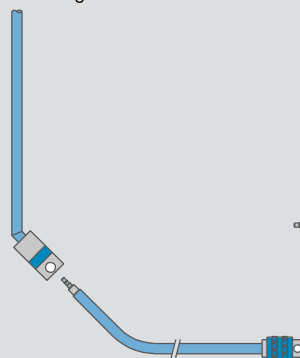
**Stäubli
Solutions**

- Breathing air hoses: straight, spiral, drums
- Safety quick couplings for connection and breathing air network tapping of personal protective equipment



Simultaneous supply of some PPE via a distributor or a final air treatment unit

Breathing air circuit



- Breathing air hoses: straight, spiral, drums
- High flow quick couplings for connection and breathing air network tapping
- Manifold unit
- Final air treatment unit (eliminate the risk of pollution, between the breathing air circuit and the user, in particular over large distances)
- Safety quick couplings for connection of personal protective equipment

AQR

automatic quick couplings



Applications

Quick connection for Instrument Air or Breathing Air network tapping.

Connection of high flow equipment: distribution units, mobile trolleys, filter units...

Secure connection for the Breathing Air supply to Personal Protective Equipment (masks, half suits and ventilated suits).

Connection solutions with two things in common - safety and performance

Depending on the type of installation and the equipment to be connected, the requirements in terms of flow volume, accessibility, security and standardisation differ.

In order to provide a precise and perfectly matching solution to each of your needs, the AQR range comes with 4 diameters and includes numerous options.

Your safety; our priority

- The AQR range provides mechanical foolproof matching preventing accidental connection to other circuits (compressed air, inert gases...).

Because of their special profile, AQR plugs only connect to AQR sockets.

1

- On disconnection, and thanks to the anti-hose whip technologies, there is no risk of violent ejection of the flexible tubing due to residual pressure in the hose (AQR 08 - 11 - 19).
- The colour blue and the “Breathing Air” marking provide easy and quick identification for Stäubli Breathing Air connections.

2



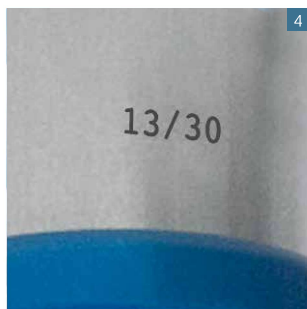


Efficiency and simplicity of push button technology

Automatic connection and disconnection for a high level of comfort in use. 3



Product batch identification for traceability. 4



Long term leak-tightness

The whole of the AQR range benefits from the specific quality of Stäubli technology, construction and inspection and guarantees long term reliability.

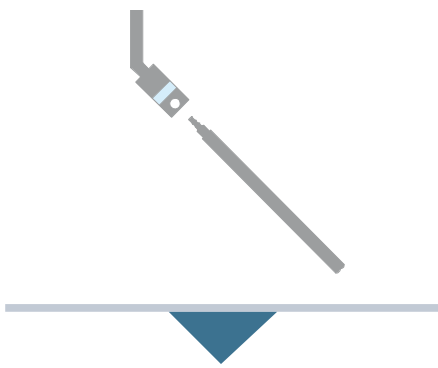
Construction

Coupling body: stainless steel.
Plug: high-resistance chromium steel.
Seals and dust cap: Nitrile (NBR).

Recommendations

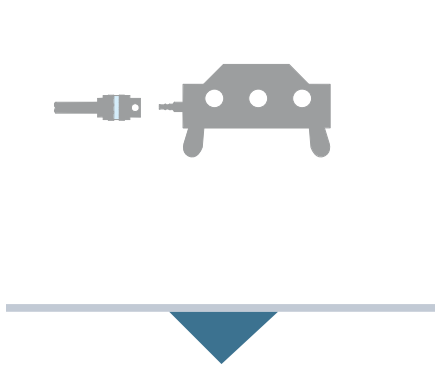
- For the safety of operators, couplings should only be used on "Breathing Air" circuits, **all other fluids, gases or liquids being excluded.**

- During lubrication, only use the G86 Stäubli lubricant - "Breathing Air" quality.



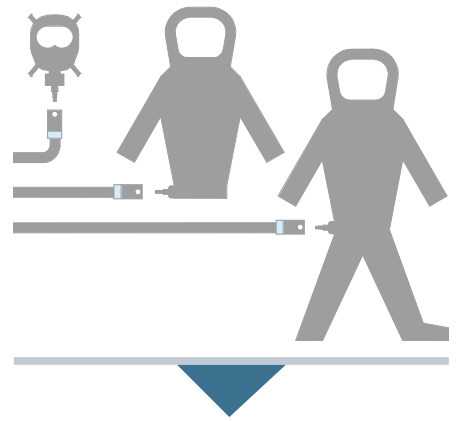
Network tapping for Personal Protective Equipment supply:

- AQR 11 or AQR 19 for several types of PPE, via a distribution or filter unit.
- AQR 08 for 1 PPE.



Connection of high flow mobile equipment (filter units, distribution units, mobile trolleys, ...):

- AQR 11 or AQR 19 at the inlet
- AQR 08 at the outlet



Direct connection from the PPE to the Breathing Air supply:

- AQR 06/DM

• AQR 11 and AQR 19 quick couplings

- AQR 11 and AQR 19 plugs in the /DL version prevent foreign matter entering the circuit and provide **slow venting** on disconnection (recommended for very long hoses).
- To retain the ergonomics while providing a high flow volume, the AQR 19 coupling has a "**Raised push-lock**" option that simplifies connection and disconnection.
- If necessary, and to prevent accidental disconnection of the coupling depriving the operator at the end of the line of Breathing Air, the AQR 11 socket can be equipped with a **safety padlock**. ³

• AQR 11 and AQR 19 quick couplings

Thanks to a design dedicated to ergonomics, AQR 11 & 19 couplings are very easy to handle even though they are dimensioned for high flow volumes.

• AQR 08 quick couplings

Once fitted to your equipment, couplings must be easy to connect and disconnect.

This is why they are fitted with an **orientable button**, to be positioned for maximum accessibility. ⁴

• AQR 06/DM quick couplings

- Designed to eliminate any risk of accidental disconnection, **2 separate actions are required to disconnect the couplings**:

> **step 1** : push the plug towards the socket

> **step 2** : press the button.

Disconnection is very easy, and only occurs when required.

- **Conformity with EN 14 593-1, EN 14 593-2 and EN 14 594 safety standards**



US Patent 7 472 930
and other countries

• AQR 08 quick couplings

- Available in a "**panel mounted**" version for hidden pipework necessitating flush fitting couplings. ¹
- "**Raised push-button**" version, especially suitable for frequent disconnection, and use with working gloves. ²

Many options for your connections,
perfectly matched to every one of your applications



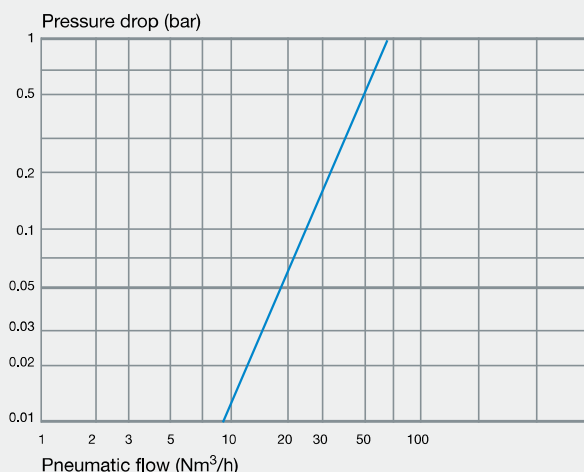
Technical features	AQR 06	AQR 08	AQR 11	AQR 19
Ø straight through flow path (mm)	5	7,2	10,5	17
Cross section (mm ²)	19,6	40,6	86,0	230
Max. working pressure (bar)	10	10	10	10
Working temperatures (°C)	- 10 to + 65	- 10 to + 65	- 10 to + 65	- 10 to + 65
Shut-off	single	single with slow decompression plug		

Flow chart / pressure drop

Test conditions

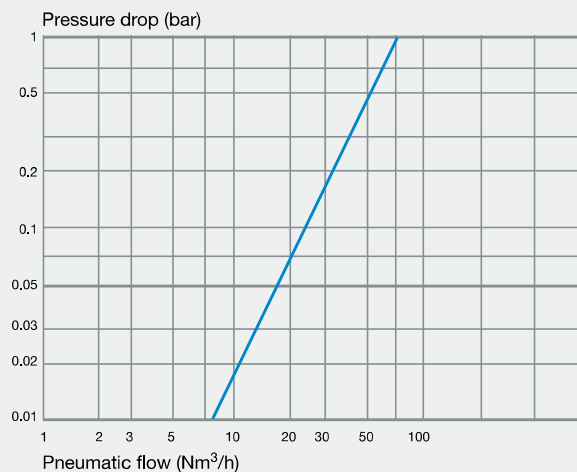
- Flow direction: Socket → Plug
- Inlet pressure: 6 bar

AQR 06



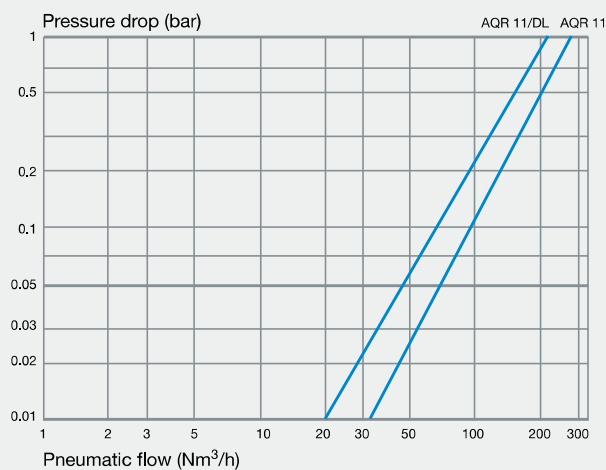
AQR 06.1152/IA/DM socket - AQR 06.6101 plug

AQR 08



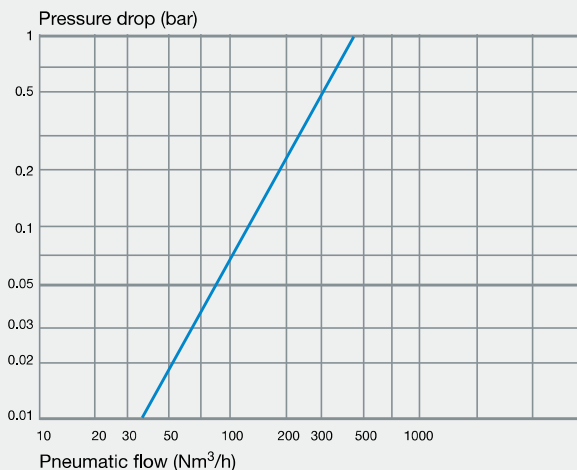
AQR 08.1152/IA/OD socket - AQR 08.6103/DL plug

AQR 11



AQR 11.1154/IA socket - AQR 11.6104 plug

AQR 19



AQR 19.1152/IA/OD socket - AQR 19.6154/IA/DL plug



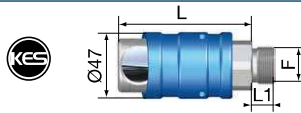
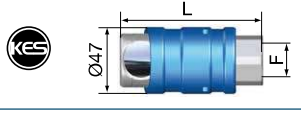

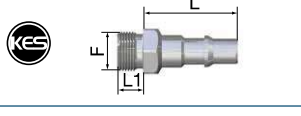
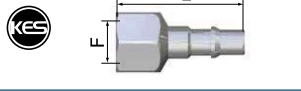
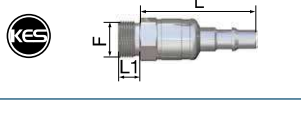
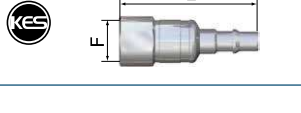
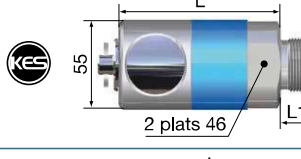
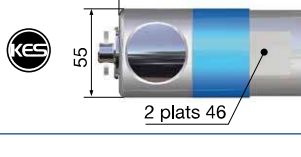

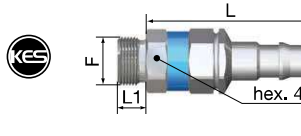
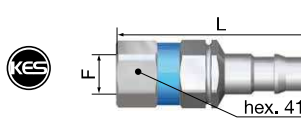
Sealing-kit

- Composed of a 316L stainless steel retaining ring and a nitrile O-ring seal, the KES ensure a perfect sealing between the socket and your support.
- The compatible couplings with this option are characterized by the logo "KES" in part-number charts. The sealing-kits must be ordered separately.

For more information, please see our KES documentation RP003.

AQR 06			F	L (mm)	L1 (mm)	Part-numbers
Socket, male threading with leak-proof 60° cone		G 1/4	52	11	AQR 06.1151/IA/DM AQR 06.1152/IA/DM AQR 06.1153/IA/DM	
		G 3/8	52	12		
		G 1/2	52	14		
Socket, female threading		G 1/4	62	-	AQR 06.1101/IA/DM AQR 06.1102/IA/DM AQR 06.1103/IA/DM	
		G 3/8	62			
		G 1/2	67			
Plug with full flow, male threading with leak-proof 60° cone		G 1/4	40	11	AQR 06.6151	
Plug with full flow, female threading		G 1/4	50	-	AQR 06.6101	
Accessory: socket anti-dust protective cap (rubber)					AQR 06.8500/DM	
Accessory: plug anti-dust protective cap (rubber)					RBE 06.8550/BC	
AQR 08			F	L (mm)	L1 (mm)	Part-numbers
Socket with shut-off valve, male threading, with leak-proof 60° cone		G 1/4	61	11	AQR 08.1151/IA/OD* AQR 08.1152/IA/OD* AQR 08.1153/IA/OD*	
		G 3/8	61	12		
		G 1/2	61	14		
Socket with shut-off valve and adjustable button, male threading, with leak-proof 60° cone		G 3/8	80	19	AQR 08.1152/IA/OD/VO AQR 08.1153/IA/OD/VO	
		G 1/2	83	22		
Socket with shut-off valve, female threading		G 1/2	75	-	AQR 08.1103/IA/OD*	
Socket with shut-off valve, panel mounted, male threading, with leak-proof 60° cone		G 1/4	61	11	AQR 08.2151/IA/OD AQR 08.2152/IA/OD AQR 08.2153/IA/OD	
		G 3/8	61	12		
		G 1/2	61	14		
Option: Raised push button - VD code to be added to the base reference.		-	-	-	ex.: AQR 08.1152/IA/VD/OD	
Slow venting plug, male thread, with leak-proof 60° cone		G 3/8	72	12	AQR 08.6152/DL AQR 08.6153/DL	
		G 1/2	72	14		
Slow venting plug, female thread		G 1/4	78	-	AQR 08.6101/DL AQR 08.6102/DL AQR 08.6103/DL	
		G 3/8	80			
		G 1/2	85			
Accessory: socket anti-dust protective cap (rubber) (not compatible with the VD option)					AQR 08.8500	
Accessory: plug anti-dust protective cap (rubber)					RBE 08.8550/BC	

* Also available in stainless version, IC quality for application in corrosive environment: replace IA/OD code by IC/OD at the end of the part-number.

AQR 11		F	L (mm)	L1 (mm)	Part-numbers
Valved full flow socket, male threading, with leak-proof 60° cone		G 1/2	96	14	AQR 11.1153/IA AQR 11.1154/IA
		G 3/4	96	16	
Valved full flow socket, female threading		G 1/2 G 3/4	101 106	-	AQR 11.1103/IA AQR 11.1104/IA
Option: Safety Lock (padlock) - add code VS to the base reference.		-	-	-	ex.: AQR 11.1104/IA/VS
Plug with full flow, male threading, with leak-proof 60° cone		G 1/2	51	14	AQR 11.6153 AQR 11.6154
		G 3/4	53	16	
Plug with full flow, female threading		G 3/4	69	-	AQR 11.6104
Slow venting plug, male thread, with leak-proof 60° cone		G 1/2	85	14	AQR 11.6153/DL AQR 11.6154/DL
		G 3/4	85	16	
Slow venting plug, female thread		G 1/2	94	-	AQR 11.6103/DL AQR 11.6104/DL
		G 3/4	97.5	-	
Accessory: plug anti-dust protective cap (rubber)					RBE 11.8550/BC
AQR 19		F	L (mm)	L1 (mm)	Part-numbers
Socket, male threading, with leak-proof 60° cone		G 3/4	102.5	16	AQR 19.1154/IA/OD
		G 1	100.5	20	AQR 19.1155/IA/OD
Socket, female threading		G 3/4	115	-	AQR 19.1104/IA/OD
		G 1	115	-	AQR 19.1105/IA/OD
Option: Raised push button - VD code to be added to the base reference.					ex.: AQR 19.1154/IA/OD/VD
Plug, male threading, with leak-proof 60° cone		G 3/4	122.5	16	AQR 19.6154/DL
		G 1	122.5	20	AQR 19.6155/DL
Plug, female threading		G 3/4	129.5	-	AQR 19.6104/DL
		G 1	135.5	-	AQR 19.6105/DL
Accessory: socket anti-dust protective cap (stainless steel)					AQR 19.8500
Accessory: plug anti-dust protective cap (rubber)					RBE 19.8550/BC