

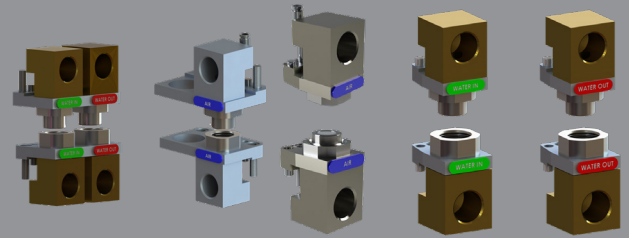
XCHANGE® Utility Module

Heavy Duty Fluid/Coolant Modules

These Modules pass fluid during an automatic tool changing operation.

Advantages:

- Flexible Connection Options
- Valved/Checked interface on both Robot and Tool Adaptors
- Clear indication of supply/return lines
 - AIR, WATER IN, WATER OUT
- Coolant Modules have Extended Fittings to seal connection prior to flow of coolant



SPECIFICATIONS

Model	Compatible XCHANGE™ Tool Changers	Number of User Connections	Label	Weight kg (lb)	User Interface*	Flow Cv	User Pressure Range bar (psi)
Pneumatic Module – Single	E125, E160, E200, and E315	1	AIR	0.22 (0.48)	½" BSPP or ½" NPT	1.54	0 – 7 (0 – 101)
Pneumatic Module – Double	E125, E160, E200, and E315	2	AIR (Twice)	0.33 (0.73)	½" BSPP or ½" NPT	1.54	0 – 7 (0 – 101)
Coolant Module – Double	E125, E160, E200, and E315	2	WATER IN and WATER OUT	0.62 (1.37)	½" BSPP or ½" NPT	1.54	0 – 7 (0 – 101)
Pneumatic Module – E125	E125	1	AIR	0.15 (0.33)	½" BSPP or ½" NPT	1.54	0 – 7 (0 – 101)
Coolant Module – E125	E125	1	WATER IN or WATER OUT	0.30 (0.66)	½" BSPP or ½" NPT	1.54	0 – 7 (0 – 101)

* Application specific fittings or threads available upon request.

Operating Temperature: **5 – 60 °C (40 – 140 °F)**

Noise Emissions (Sound Pressure): **≤ 70 dB(A) in any direction**

FLOW FORMULAS

Imperial measurement units:

Flow of Gases (Pneumatic Module)

$$Q_G = 962 * C_v * \sqrt{\frac{P_1^2 - P_2^2}{G_G * T}}$$

Q_G = Gas flow rate in Standard Cubic Feet per Hour (SCFH)

Q = Valve flow rate in gallons per minute (US gpm)

C_v = Flow Coefficient = 1.54 for these modules

P_1 = Upstream (inlet) absolute pressure in pounds per square inch (psi)

P_2 = Downstream (outlet) absolute pressure in pounds per square inch (psi)

G_G = Specific gravity of medium where air at 70°F and 14.7 psia equals 1.0

G_F = Specific gravity of fluid related to water

T = Absolute temperature in °R (°F + 460)

Flow of Fluids (Coolant Module)

$$Q = C_v * \sqrt{\frac{P_1 - P_2}{G_F}}$$

Metric measurement units:

Flow of Gases (Pneumatic Module)

$$Q_G = 395 * C_v * \sqrt{\frac{P_1^2 - P_2^2}{G_G * T}}$$

Q_G = Gas flow rate in Standard Cubic Meters per Hour (m³/h)

Q = Valve flow rate in Cubic Meters per Hour (m³/h)

C_v = Flow Coefficient = 1.54 for these modules

P_1 = Upstream (inlet) absolute pressure in bar

P_2 = Downstream (outlet) absolute pressure in bar

G_G = Specific gravity of medium where air at 20°C and 1 bar equals 1.0

G_F = Specific gravity of fluid related to water

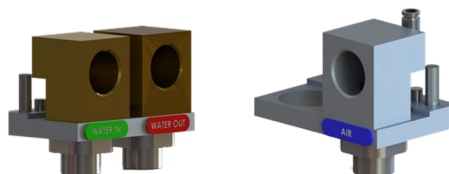
T = Absolute temperature in °R (°F + 460)

Flow of Fluids (Coolant Module)

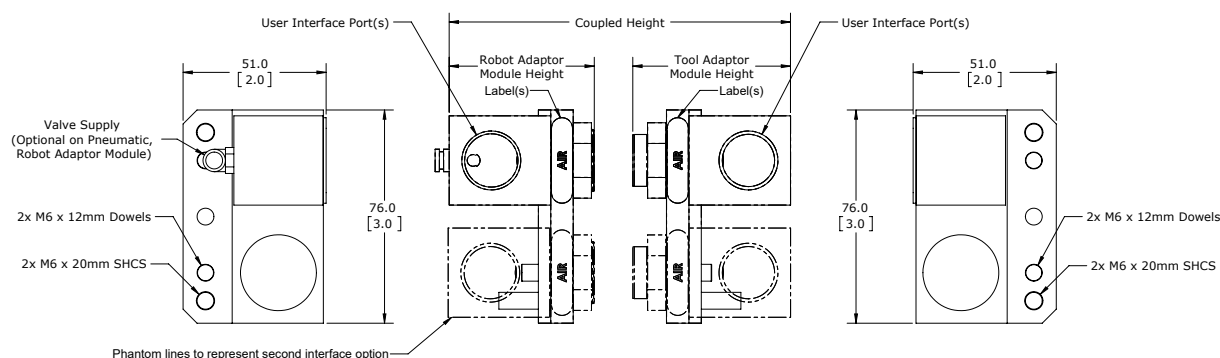
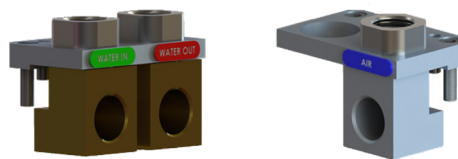
$$Q = 0,865 * C_v * \sqrt{\frac{P_1 - P_2}{G_F}}$$

PRODUCT INFORMATION

ROBOT ADAPTOR MODULE

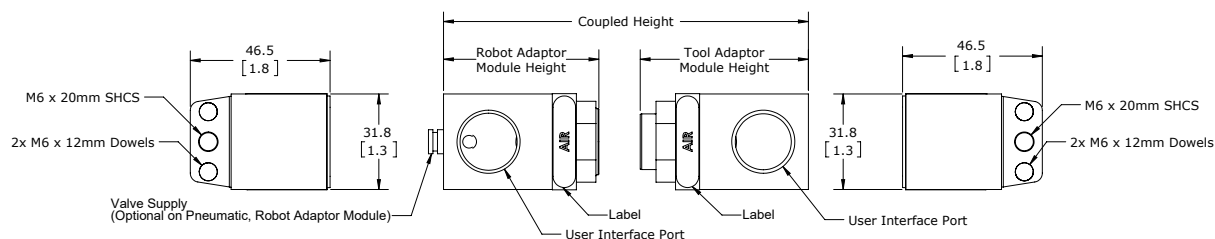
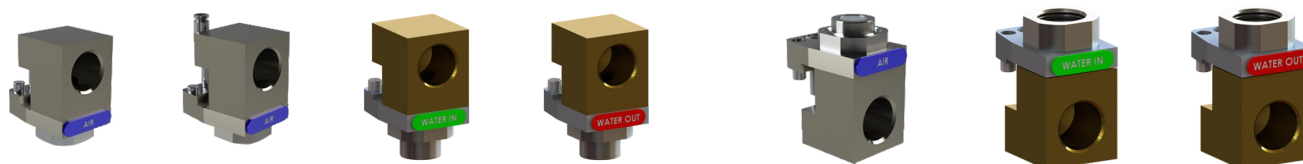


TOOL ADAPTOR MODULE



ROBOT ADAPTOR MODULE - E125

TOOL ADAPTOR MODULE - E125



NOTE: Dimensions are mm
[in]

Model	Label	Coupled Height	Robot Adaptor Module Height	Tool Adaptor Module Height
Pneumatic Module	AIR	102.0 (4.0)	51.7 (2.0)	56.2 (2.2)
Coolant Module	WATER IN and/or WATER OUT	106.8 (4.2)	61.8 (2.4)	55.7 (2.2)

* Dimensions are in millimeters (inches).

** All dimensions are descriptive and subject to variation for technical upgrading. We reserve the right to make variations without prior notification.



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