

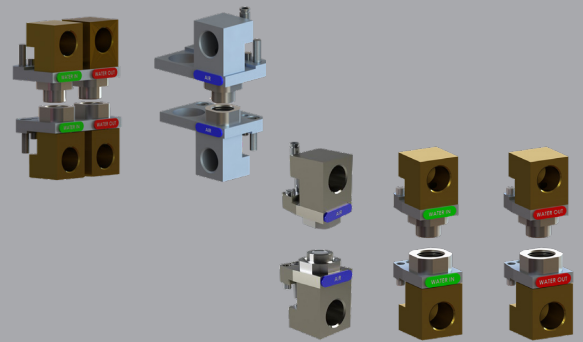
XCHANGE™ Utility Module

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
- P₁ = Upstream (inlet) absolute pressure in pounds per square inch (psi)
- P₂ = 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)

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

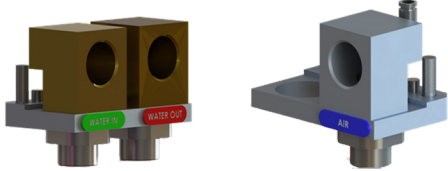
- Q_G = Gas flow rate in Standard Cubic Meters per Hour (m³/h)
- Q = Valve flow rate in Cubic Meters per Hour (m³/h)
- C_v = Flow Coefficient = 1.54 for these modules
- P₁ = Upstream (inlet) absolute pressure in bar
- P₂ = Downstream (outlet) absolute pressure in bar
- G_G = Specific gravity of medium 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)

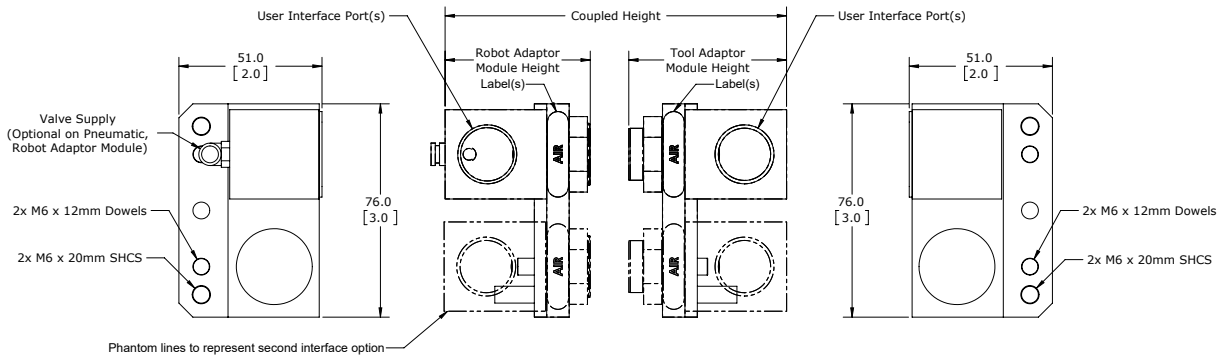
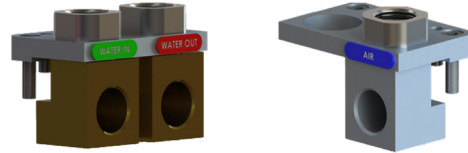
$$Q = 0,865 * C_v * \sqrt{\frac{P_1 - P_2}{G_F}}$$

PRODUCT INFORMATION

ROBOT ADAPTOR MODULE

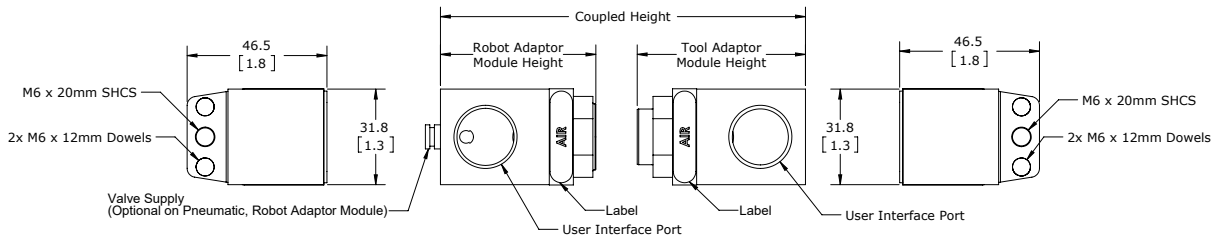


TOOL ADAPTOR MODULE



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)
	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.



Applied Robotics
648 Saratoga Road
Glenville, NY 12302 USA
Tel. +1 518 384 1000 Fax +1.5183841200
info@appliedrobotics.com
www.appliedrobotics.com



EFFECTO GROUP S.p.A.
Via Roma, 141/143
28017 San Maurizio d'Opaglio (NO) - Italy
Tel. +39 0322 96142 Fax +39 0322 967453
info@effecto.com
www.effecto.com



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