

Product information

Cyyz16a high temperature pressure transmitter



Cyyz16a pressure transmitter is well designed, not only compact in structure, but also excellent in quality. It is suitable for measuring high-temperature liquid or gas, and has extremely high cost performance. It also has multiple advantages such as output signal, measuring range, pressure interface and electrical connection, which is convenient to match different working conditions.

Range: - 100KPa ~ 0 ~ 100MPa (see range selection table for details)

Output: 4 ~ 20mA, RS485, 0 ~ 10VDC, 0 ~ 5VDC, 1 ~ 5VDC

0.5~2.5VDC

Power supply: 9 ~ 36VDC, 15 ~ 36VDC, 3 ~ 5VDC

Accuracy: 0.1% FS, 0.25% FS, 0.5% FS

In addition, we can also provide customized products to meet the application needs of customers in a short time according to their applications.

Typical application

▲General industry.

Instructions

Pressure transmitter cyyz16a series can measure absolute pressure, negative pressure and gauge pressure according to different models. Suitable for pressure measurement of liquid or gas and process industry. The operator is responsible for checking whether the equipment is suitable for the working conditions of the application. If you have any questions, please contact our sales department to ensure the correct application of the transmitter. The company will not bear any responsibility for the impact caused by improper selection. The user must ensure that the measured medium is compatible with the contact material of the transmitter.

⚠Warning!
Improper use will lead to danger!

Icon description

⚠Danger! - A dangerous situation that could result in death or serious injury.

⚠Warning! - A potentially hazardous situation that could result in death or serious injury.

! Be careful! A potentially hazardous situation that could result in minor injury.

🔔Reminder! - A potentially hazardous situation that could result in personal injury.

⚠Tips! - Tips and information to ensure trouble free operation of the equipment.

User

⚠Warning! This information is applicable to technicia

Product features

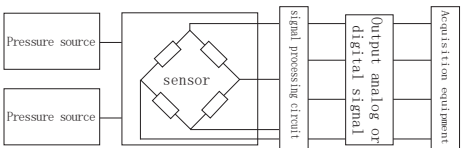
- a) Diaphragm isolation technology is adopted
- b) Integrated chip, wide voltage power supply
- c) Compact structure and convenient installation
- d) Frequency cut-off design, strong anti-interference ability and lightning protection
- e) Current limiting, voltage limiting and reverse connection protection
- f) High precision, good stability, fast response speed and impact resistance

Product overview

Cyyz16a series pressure transmitter adopts OEM pressure sensor with stainless steel isolation diaphragm as signal measuring element. After automatic test by computer, zero point and sensitivity temperature compensation in wide temperature range are carried out by laser resistance adjusting technology. The amplifying circuit is located in the stainless steel housing, which converts the sensor signal into the standard output signal, giving full play to the technical advantages of the sensor, so that the cyyz16a series pressure transmitter has excellent performance. It has strong anti-interference, overload and impact resistance, small temperature drift, high stability, and high measurement accuracy. It is an ideal pressure measuring instrument in the field of industrial automation.

Working principle

The pressure sensor diffuses a Wheatstone bridge on the monocrystalline silicon chip. The pressure of the measured medium (gas or liquid) changes the resistance value of the bridge wall (piezoresistive effect) to generate a differential voltage signal. This signal is transformed into a standard analog signal (as shown in the figure below) or digital signal through a special amplifier.



Technical parameter

Measuring medium: liquid or gas (compatible with contact material)

Range range < 10KPA (non conductor, non corrosive, non explosive gas, humidity ≤ 90% RH, no condensation).

Pressure range: - 100KPA ~ 0 ~ 100MPa (see range selection table for details)

Pressure mode: gauge pressure, absolute pressure and negative pressure

Medium temperature: - 40 ~ 150 °C

On time: 20ms

Stability performance: ± 0.1% FS / year

Temperature drift: ± 0.01% FS / °C (within the temperature compensation range)

± 0.05% FS / °C (outside the temperature compensation range)

Protection grade: IP65 (without display) IP54 (with display)

Note: the above protection grade refers to that achieved after the electrical connection is complete

Durability: 10X10⁶cycles (cycles from lower range to upper range)

Overall weight: no display ≈ 320G with display ≈ 360g

Resolution: Analog output 0.01% FS, digital output 0.05% FS

Output power supply

output \ power supply	9~36VDC	15~36VDC	3~5VDC
4~20mA	No display	With display	×
RS485	With / without display	With display	No display
0~10VDC	×	With / without display	×
0~5VDC	With / without display	×	×
1~5VDC	With / without display	×	×
0.5~2.5VDC	×	×	No display

Accuracy class

Range range	Standard configuration (temperature compensation-10~70℃)	Optional (temperature compensation - 40 ~ 80 °C)
range≥100kPa	0.25%FS Including repeatability ≤ 0.035% FS hysteresis ≤ 0.05% FS	0.1%FS Including repeatability ≤ 0.02% FS hysteresis ≤ 0.02% FS
10kPa≤range<100kPa	0.5%FS Including repeatability ≤ 0.035% FS hysteresis ≤ 0.05% FS	0.25%FS (Note 3) Including repeatability ≤ 0.02% FS hysteresis ≤ 0.02% FS
Meter accuracy	0.5% FS digital tube (LED) display	

Note 1: The reference conditions are temperature 15 ~ 25 °C, atmospheric pressure 86 ~ 106kPa, humidity 45 ~ 75% RH.

Note 2: 0.5~2.5VDC output cannot be customized with high precision.

Note 3: The measuring range is ≤ 10kPa, and the temperature compensation range is-10~70℃.

Response frequency

RS485 output	high-precision	Absolute pressure and negative pressure	Range range≤10kPa	other
5Hz	30Hz	30Hz	30Hz	100Hz

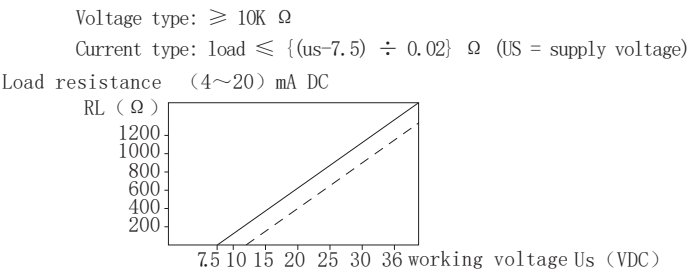
Note: the smallest overlap shall prevail.

maximum power

output power	≤0.02Us (W)	≤0.015Us (W)	≤0.008Us (W)	≤0.001Us (W)
4~20mA	With/without display			
RS485	With display	No display		
0~10VDC	With display		No display	
0~5VDC	With display		No display	
1~5VDC	With display		No display	
0.5~2.5VDC				No display

Note: US = supply voltage.

Load characteristics



Environment condition

Ambient temperature: - 40 ~ 85 °C
Ambient humidity: 0% ~ 95% RH (no condensation and condensation)

Electromagnetic compatibility(EMC)

Serial number	Test items	Basic standards	Test conditions	Performance level
1	Radiated interference (enclosure)	GB/T 9254/CISPR22	30MHz-1000MHz	qualified
2	Conducted interference (DC power port)	GB/T 9254/CISPR22	0.15MHz-30MHz	qualified
3	Electrostatic discharge (ESD)	GB/T 17626.2/IEC61000-4-2	4kV(Contact), 8kV (air)	B(Note 2)
4	Radio frequency electromagnetic field immunity	GB/T 17626.3/IEC61000-4-3	10V/m(80MHz-1GHz)	A(Note 1)
5	Power frequency magnetic field immunity	GB/T 17626.8/IEC61000-4-8	30A/m	A(Note 1)
6	Electrical fast transient burst immunity	GB/T 17626.4/IEC61000-4-4	2kV(5/50ns, 100kHz)	B(Note 2)
7	Surge immunity	GB/T 17626.5/IEC61000-4-5	1kV(Between lines) 2kV(Between ground wires)(1.2us/50us)	B(Note 2)
8	Conducted interference immunity induced by RF field	GB/T 17626.6/IEC61000-4-6	3V(150kHz-80MHz)	A(Note 1)

Note 1: when the performance grade is a, the performance is normal within the limits of technical specifications.
Note 2: when the performance level is level B, the function or performance is temporarily reduced or lost, but can be recovered by itself, and the actual operation condition, storage and data will not change.

Overpressure and blasting

Pressure type	Range range	Overload pressure	Burst pressure	OO-ring
G	$0 < FS \leq 70kPa$	300%FS	600%FS	Nitrile rubber
G、A	$0.07 < FS \leq 1MPa$	200%FS	500%FS	Nitrile rubber
G、A	$1 < FS \leq 2.5MPa$	200%FS	500%FS	Nitrile rubber
S	$2.5 < FS \leq 16MPa$	200%FS	400%FS	Fluororubber
S	$16 < FS \leq 25MPa$	150%FS	400%FS	Fluororubber
S	$25 < FS \leq 100MPa$	150%FS	300%FS	Fluororubber
Positive and negative pressure	$\pm 4kPa$	12kPa	20kPa	Nitrile rubber
	$\pm 20kPa$	50kPa	200kPa	Nitrile rubber
	$\pm 100kPa$	300kPa	600kPa	Nitrile rubber
	$-100 \sim 160kPa$	480kPa	900kPa	Nitrile rubber
	$-100 \sim 250kPa$	750kPa	1.25MPa	Nitrile rubber
	$-100 \sim 400kPa$	800kPa	2MPa	Nitrile rubber
	$-100 \sim 600kPa$	1.2MPa	3MPa	Nitrile rubber
	$-0.1 \sim 1MPa$	2MPa	5MPa	Nitrile rubber
	$-0.1 \sim 1.6MPa$	3MPa	9MPa	Nitrile rubber
	$-0.1 \sim 2.5MPa$	5MPa	12.5MPa	Nitrile rubber

-  Tips! Note ①: overload pressure, no damage but abnormal operation;
-  DANGER! Note ②: burst pressure, damage or damage relief.
-  Tips! Note ③: G gauge pressure, a absolute pressure and s sealing pressure.

Overall material

Diaphragm: 316L stainless steel (contact with the measured medium)
Process connection: 304 stainless steel (contact with the measured medium)
Shell: 304 stainless steel
Sealing of the core body: pressure and burst chart (contact with measured medium)
Display housing: ABS engineering plastic (LED display)
Hesman joint: ABS engineering plastic

Mechanical stability

Seismic performance: 10g (20... 2000Hz), conforming to iec60068-2-6 standard
Impact resistance: 500g / MS, conforming to iec60068-2-27 standard

Electrical protection

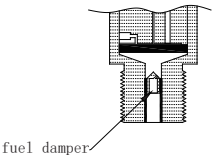
Short circuit protection: permanent
Reverse pole protection: no damage, but does not work
Insulation resistance: $\geq 100m \ \Omega$ 500VDC
Insulation strength: 500VAC

Output limit

	Output minimum		Maximum output	
	N(Note 1)	other	N(Note 1)	other
4-20mA	4mA	3. 8mA	20mA	26mA
RS485	0	0	2000	2000
0~10VDC	0. 001VDC	0. 001VDC	10VDC	12VDC
0~5VDC	0. 001VDC	0. 001VDC	5VDC	12VDC
1~5VDC	0. 001VDC	0. 001VDC	5VDC	5VDC
0. 5~2. 5VDC	0. 05VDC	0. 05VDC	5VDC	5VDC

Note 1: n refers to high precision, absolute pressure, negative pressure and range range ≤ 10kPa.

fuel damper



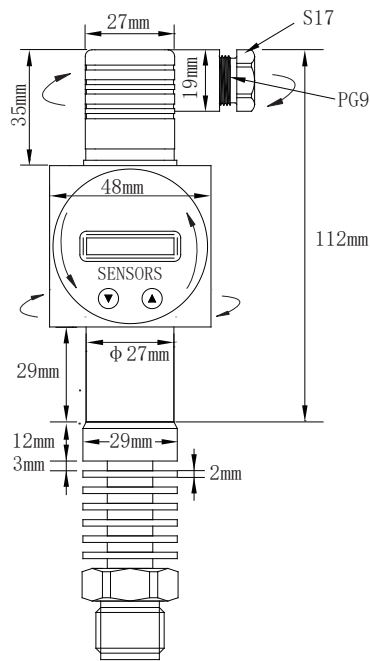
application
Cavitation, liquid hammer and peak pressure may occur in the liquid filling system, such as when the valve is closed quickly, Or when the pump is started and shut down. It may mainly occur at the inlet end and outlet end, even if it works
The pressure is very low, and it is no exception. A pulse buffer is installed inside the sensor to solve this kind of problem.
Note: after adding a pulse buffer, the medium pulse frequency will drop below 30Hz.

Explosion proof instructions

Intrinsically safe (limited to 4-20mA output)

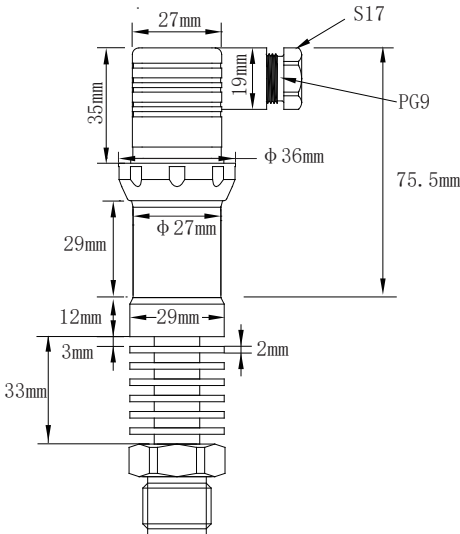
Conforming to standards GB/T3836.1-2021 and GB/T3836.4-2021
Explosion proof sign: Ex ia II C T6 Ga
Intrinsic safety parameters: Ui: 28V, Ii: 93mA, Pi: 0.65W, Ci: 60nF, Li: 0 μ H
Associated device parameters: Uo ≤ Ui Io ≤ Ii Po ≤ Pi Co=Cc+Ci Lo=Lc+LiUo, Io, Po, Co, Lo are safety barrier parameters, and CC and CC are distribution parameters for connecting cables.
Explosion proof certificate number: CLEx23.5924

Outline and dimension

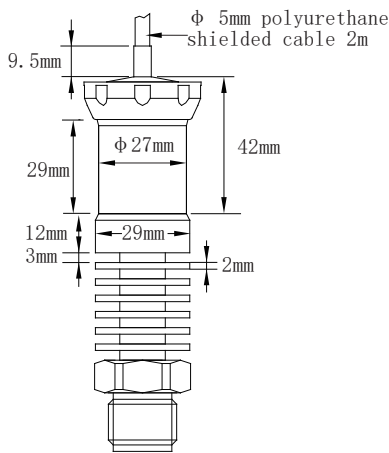


The outgoing line of hesman connector is shown

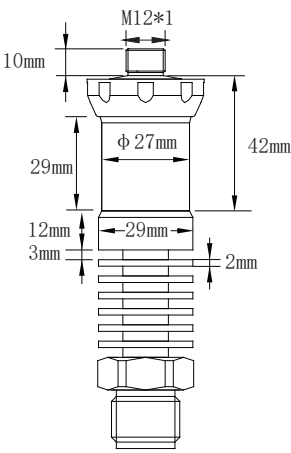
Note: the marked place can be rotated by 350 °



Hesman connector outgoing line

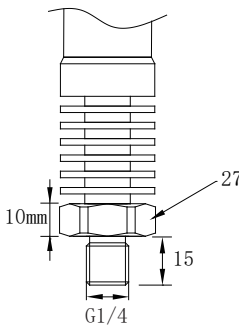
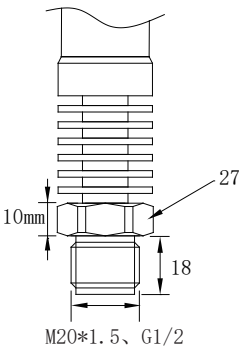


Direct outgoing line



Aviation connector outgoing line

External thread size

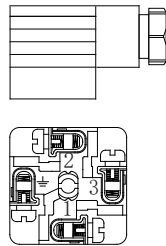


Wiring diagram

Hesman plug

ID	2-Wire	3-Wire	4-Wire
1	Power supply+	Power supply+	Power supply+
2	Power supply-	OUT+	A
3		Power supply-	Power supply-
⏏	⏏	⏏	B

Note: the diameter of lock wire is 5 ~ 6.5mm



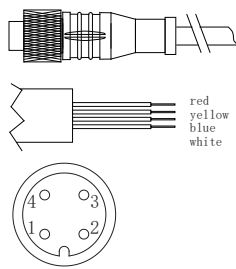
Direct outgoing line

ID	2-Wire	3-Wire	4-Wire
red	Power supply+	Power supply+	Power supply+
yellow		OUT+	A
blue	Power supply-	Power supply-	Power supply-
white			B



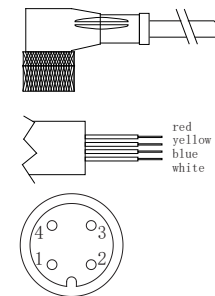
Aerial straight head belt line

ID	2-Wire	3-Wire	4-Wire
1/red	Power supply+	Power supply+	Power supply+
2/yellow		OUT+	A
3/blue	Power supply-	Power supply-	Power supply-
4/white			B



Aerial inserting elbow strip line

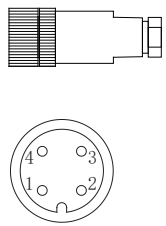
ID	2-Wire	3-Wire	4-Wire
1/red	Power supply+	Power supply+	Power supply+
2/yellow		OUT+	A
3/blue	Power supply-	Power supply-	Power supply-
4/white			B



Aerial straight head

ID	2-Wire	3-Wire	4-Wire
1	Power supply+	Power supply+	Power supply+
2		OUT+	A
3	Power supply-	Power supply-	Power supply-
4			B

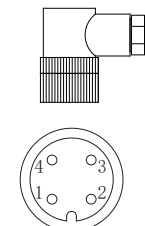
Note: the diameter of lock wire is 4 ~ 5mm



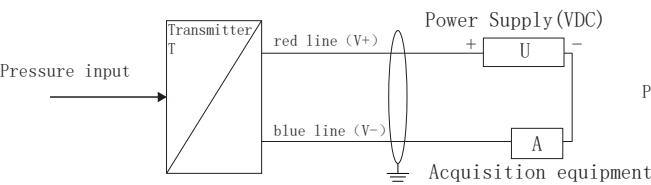
Aviation plug elbow

ID	2-Wire	3-Wire	4-Wire
1/red	Power supply+	Power supply+	Power supply+
2/yellow		OUT+	A
3/blue	Power supply-	Power supply-	Power supply-
4/white			B

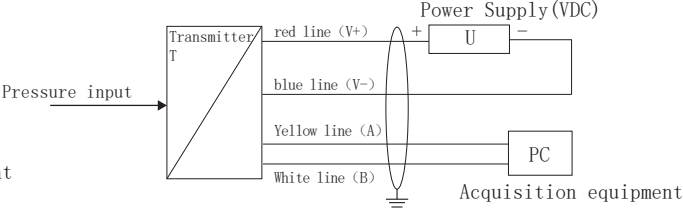
Note: the diameter of lock wire is 4 ~ 5mm



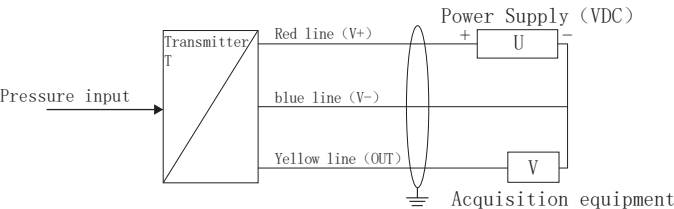
Current output wiring diagram (two-wire system)



RS485 (digital signal) output wiring diagram (four wire system)



Voltage output wiring diagram (three wire system)



⏏ Represents shielded wire, and all marked grounding points must be effectively grounded. It is recommended to select shielded twisted pair signal cable for the best effect. In order to avoid grounding loop, the shielding layer adopts single end grounding, insulated floating grounding at the end of pressure transmitter and grounding at the end of control cabinet.

⏏ The transmitter shell is grounded by default, so the field equipment shall be effectively grounded. If the field equipment cannot be grounded, the marked grounding point shall be effectively grounded.

Parameter selection

CYYZ	Pressure transmitter											
	code	Transmitter type										
	16A	High temperature type										
		code	Electrical connection									
		H	Hesman connector (not shown) Note: with butt plug, no connecting line by default									
		X	Hesman connector (with display) Note: with butt plug, no connecting line by default									
		M	Aviation connector (not shown) Note: without butt plug, accessories need to be purchased separately									
		K	Direct outgoing line (no display) Note: the default outgoing line length is 2m									
			code	Range								
				See the schedule of range selection for details								
				code	signal output							
				A1	4-20mA		Two wire system					
				V2	0.5-2.5VDC		Three wire system					
				V4	1-5VDC		Three wire system					
				V5	0-5VDC		Three wire system					
				V10	0-10VDC		Three wire system					
				RS	RS485 communication interface, (standard Modbus RTU protocol) four wire system							
				DZ	customized							
					code	Connection type						
					14	M20*1.5 External thread (standard)						
					17	G1/4		External thread (common)				
					19	G1/2		External thread (common)				
					44	customized						
						code	Accuracy class					
						S	0.1%FS					
						B	0.25%FS					
						C	0.5%FS					
						DZ	customized					
							code	Supply voltage				
							G2	15-36VDC Conventional				
							G3	3-5VDC (Display is not allowed)				
							G5	9-36VDC Normal				
							G9	15-24VDC (intrinsic safety only)				
							DZ	customized				
								code Explosion proof type				
							B	Intrinsically safe (current output only)				
							No	Standard type (without explosion-proof)				
								code	customized			
								D	Other customization requirements			
								No	Normal			
CYYZ	16A	H	12	A1	14	B	G5		Model selection examples			
For example: cyyz16a-h-12-a1-14-b-g5 (high temperature pressure transmitter, no display of hesman lead, range 0-1mpa, output 4-20mA, connection M20 * 1.5, accuracy 0.25, power supply 9-36vdc).												

Range selection schedule

Code	range	Code	range	Code	range	Code	range
01	0~1kPa	02	0~2kPa	03	0~5kPa	03T	0~5kPa
04T	0~10kPa	05	0~20kPa	06	0~50kPa	07	0~100kPa
08	0~200kPa	09	0~0. 4MPa	10	0~0. 5MPa	11	0~0. 6MPa
12	0~1MPa	13	0~1. 6MPa	14	0~2. 5MPa	15	0~4MPa
16	0~6MPa	17	0~10MPa	18	0~16MPa	19	0~20MPa
20	0~25MPa	21	0~30MPa	22	0~35MPa	23	0~40MPa
24	0~60MPa	25	0~70MPa	26	0~80MPa	27	0~100MPa
31	100kPa (A)	32	200kPa (A)	33	0. 5MPa (A)	34	1MPa (A)
35	2MPa (A)	36	±1kPa	37	±2kPa	37T	±2kPa
38T	±5kPa	39	±10kPa	40	±20kPa	41	±30kPa
42	±40kPa	43	±50kPa	44	±100kPa	45	-100~200kPa
46	-0. 1~0. 5MPa	47	-0. 1~1MPa	48	0~-1kPa	49	0~-2kPa
50	0~-3kPa	50T	0~-3kPa	51	0~-5kPa	51T	0~-5kPa
52T	0~-10kPa	53	0~-20kPa	54	0~-30kPa	55	0~-50kPa
56	0~-100kPa	57	-1kPa~0	58	-2kPa~0	59	-3kPa~0
59T	-3kPa~0	60	-5kPa~0	60T	-5kPa~0	61T	-10kPa~0
62	-20kPa~0	63	-30kPa~0	64	-40kPa~0	65	-50kPa~0
66	-100kPa~0	67	customized				
Note 1: a represents absolute pressure; No indication represents gauge pressure; Note 2: only dry gas can be measured when the range is less than 10kPa; Note 3: measuring range ≥ 60MPa, thread can only be m20*1.5, and other specifications need to be customized.							

Ordering instructions

 Warning!

When ordering the pressure transmitter, the user should pay attention to selecting appropriate specifications according to the pressure, temperature and environmental conditions of the medium.

ordering information

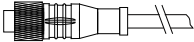
Model / electrical connector / range / output signal / connection mode / accuracy level / power supply voltage

/Explosion proof type/ Customization

enclosure(Purchase separately)

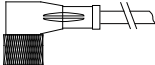
Electrical connection plug

M12-z aviation plug straight head connecting cable



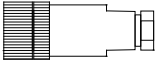
Main purpose: electrical connection

M12-w aviation plug elbow connecting cable



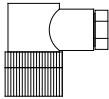
Main purpose: electrical connection

M12c-z aviation plug straight head



Main purpose: electrical connection

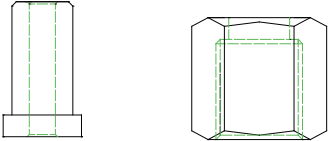
M12c-w aviation plug-in elbow



Main purpose: electrical connection

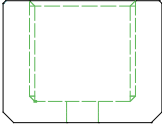
Welded base

Dz01 union welding base



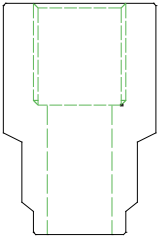
Main purpose: base welding and positioning

Dz05 column welding base



Main purpose: base welding

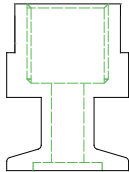
Dz03 pagoda welded base



Main purpose: base welding

Adapter

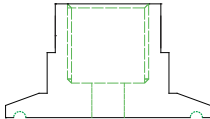
Zb06 adapter kf16



Main purpose: transfer and conversion

The diagram shows a cross-section of a T-shaped adapter. It has a wide rectangular top flange and a narrower vertical stem. A green dashed line outlines the internal bore, which is wider at the top and tapers slightly towards the bottom.

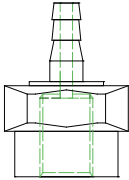
Zb08 adapter clamp



Main purpose: transfer and conversion

The diagram shows a cross-section of a clamp-style adapter. It features a wide base with two small circular features on the left and right sides. A central rectangular opening is shown with a green dashed line indicating its internal profile.

Zb05 pagoda mouth adapter



Main purpose: transfer and conversion

The diagram shows a cross-section of a pagoda mouth adapter. It has a complex, multi-tiered top structure resembling a pagoda. The main body is a rectangular block with a central opening. A green dashed line shows the internal bore.

F101 adapter flange



Main purpose: transfer and conversion

The diagram shows a side view of a flange adapter. It is a long, rectangular component with a central section that is wider than the ends. A green dashed line indicates a central bore.