Fluid cooling connectors application Precautions

Prior to use of fluid cooling connectors, please be sure to observe the following items, any doubt , please consult our company .

1, prior to use, check the fluid cooling connectors and ensure connectors clean and without contaminant.
2, fluid cooling connectors are prohibited to adapt the fluids other than liquids.
3, the fluid must be clean fluid through filters. It is recommended that fluid cleanliness better than GJB420B-9 level.
4, must not exceed the maximum working pressure.
5, during mating and unmating, plug and receptacle must ensure alignment.
6, mating and unmating under pressure is prohibited.
7, useing connectors beyond the temperature range is prohibited.
8, fluid cooling connectors disassembly is prohibited.
9, Do not excessively bend the hose attached with fluid cooling connectors.
10, during installation, you should select the appropriate measures to anti-loosening .
11, please do not use as a hinge joint.
12, interchangeably use with products from other company is not recommended.

YXA series bayonet fluid cooling connectors

Brief introduction

YXA Series fluid cooling connectors are widely used in a variety of liquid cooling systems, mainly for avionics, airborne radar, shipboard radar systems to connect the flow channel inside liquid-cooled chassis with external piping, and the interconnection of fluid transfer lines.

- bayonet locking means for high vibration environments.
- automatically sealed to prevent leakage during disconnection
- do not cause leakage of the internal liquid during normal mating.
- shell material can choose aluminum alloy, stainless steel and titanium alloy for a variety of environments.
- With strong abrasion resistance and corrosion resistance.
- Execute the enterprise standard: Q/21EJ857

Main technical performances

——Shell：high strength aluminum alloy，Ti alloy or stainless steel。
——plating：Hard anodization and passivation
——grommet：High strength fluorine and silicone rubber、fluorine rubber、EPDM rubber
——Shock：half sinusoid，peak acceleration 15g，pulse duration 11ms，3 times for each axis
——Random vibration：15~2000Hz，power spectral density 0.04g2/Hz，duration 0.5h
——durability：500 cycles

Designation

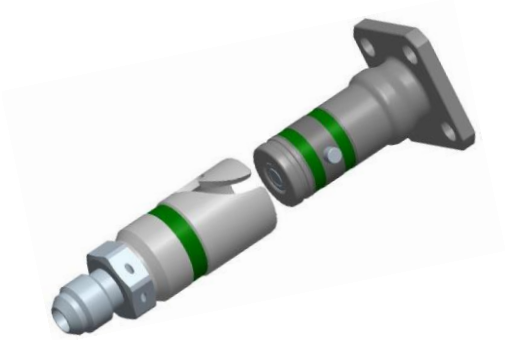
Series	YX A -3 T 01 R Al JE
Coupling	A—bayonet
Flow Specification	3—equivalent diameter of 7 mm^2 Fluid effective cross-sectional area 5—equivalent diameter of 19.6 mm^2 Fluid effective cross-sectional area 8—equivalent diameter of 50 mm^2 Fluid effective cross-sectional area 12 – equivalent diameter of 113 mm^2 Fluid effective cross-sectional area 15 – equivalent diameter of 176.7 mm^2 Fluid effective cross-sectional area 20–equivalent diameter of 314 mm^2 Fluid effective cross-sectional area
Connector type	T—plug Z—receptacle
Interface code	01… （These specifications have different interface flow code options, see specific dimensions）
Color identification[2)]	R—Red B—Blue G—Green Y—Yellow
Basic material	Al—aluminum alloy Ti—Ti alloy SS—stainless steel
Fit liquid	JE—braking fluid，hot water，steamed water，silicone oil，purified water（operating temperature-55~+125℃） JF—fuel oil，aviation fuel oil，strong acid，purified water，strong alkali and other solutions（operating temperature-30~+232℃） JM—PAO，fuel oil，aviation fuel oil，nitrogen，purified water，antifreeze solution，silicone oil（operating temperature-55~+177℃）

Designation example:

YXA-8Z01RAlJE：bayonet fluid cooling connectors，Φ8equivalent diameter（sectional area of 50mm^2），receptacle，Interface code 01，red，basic material aluminum alloy，choose JE liquid medium and operation temperature。

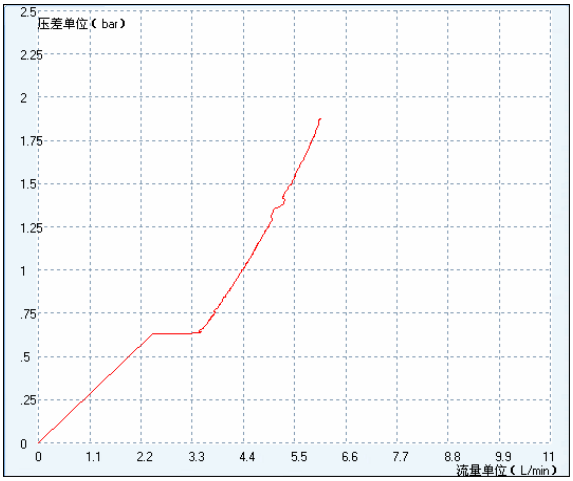
YXA-5T03YTiJM：bayonet fluid cooling connectors，Φ5equivalent diameter（sectional area of 19.6mm^2），plug，Interface code 03，yellow，basic material Ti alloy，choose JM liquid medium and operation temperature。

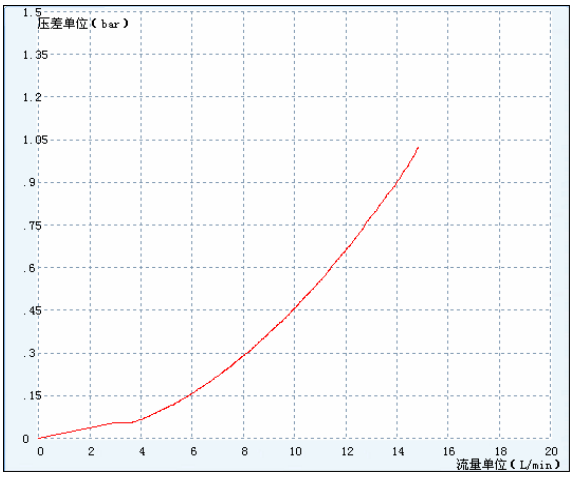
[YXA Series fluid cooling connectors application performances]

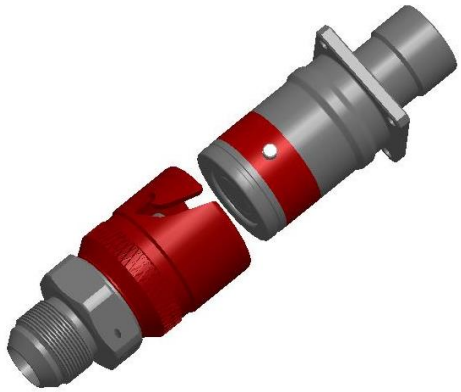
YXA-3	YXA-5
	

Specification	YXA-3	
Main material	stainless steel	Ti alloy
Equivalent fluid size（mm）	Φ3	Φ3
Equivalent fluid section（mm^2）	7	7
Sealing system	duplex	duplex
MWP（bar）	100	100
The maximum working Flow（L/min）	2.1	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	63max	38max

Specification	YXA-5	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ5	Φ5
Equivalent fluid section（mm^2）	19.6	19.6
Sealing system	duplex	duplex
MWP（bar）	100	100
The maximum working Flow（L/min）	5.88	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	56max	67max

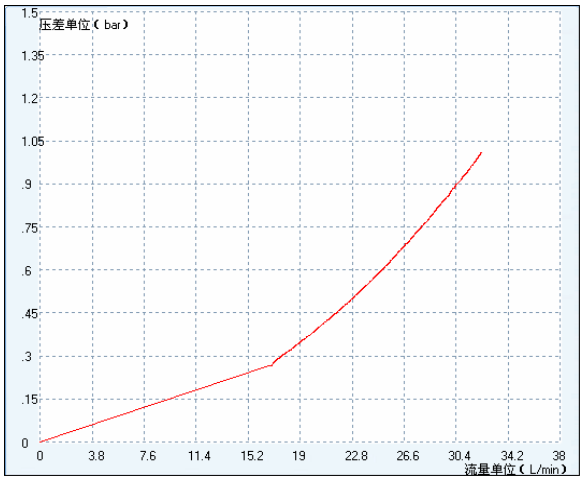

压差单位（bar）
2.5
2.25
2
1.75
1.5
1.25
1
.75
.5
.25
0
0
1.1
2.2
3.3
4.4
5.5
6.6
7.7
8.8
9.9
11
流量单位（L/min）

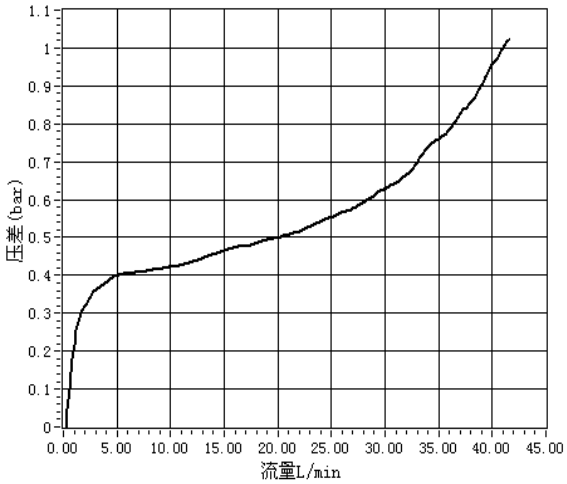

压差单位（bar）
1.5
1.35
1.2
1.05
.9
.75
.6
.45
.3
.15
0
0
2
4
6
8
10
12
14
16
18
20
流量单位（L/min）

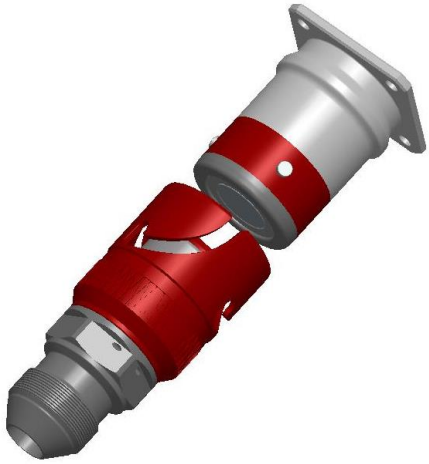
YXA-8	YXA-10
	

Specification	YXA-8	
Main material	aluminum alloy	stainless steel
Equivalent fluid size（mm）	Φ8	Φ8
Equivalent fluid section（mm^2）	50	50
Sealing system	duplex	duplex
MWP（bar）	100	100
The maximum working Flow（L/min）	15	
The maximum leakage during inserting（cm^3）	0.03	0.03
Weight of receptacle and plug（g）	113max	228max

Specification	YXA-10	
Main material	aluminum alloy	stainless steel
Equivalent fluid size（mm）	Φ10	Φ10
Equivalent fluid section（mm^2）	78.5	78.5
Sealing system	duplex	duplex
MWP（bar）	50	50
The maximum working Flow（L/min）	23.55	
The maximum leakage during inserting（cm^3）	0.05	0.05
Weight of receptacle and plug（g）	149max	400max

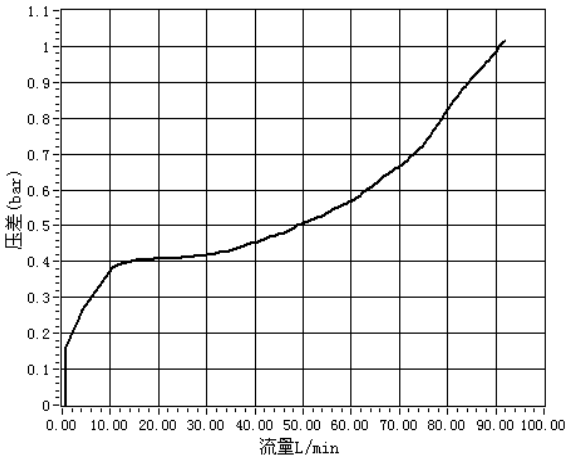


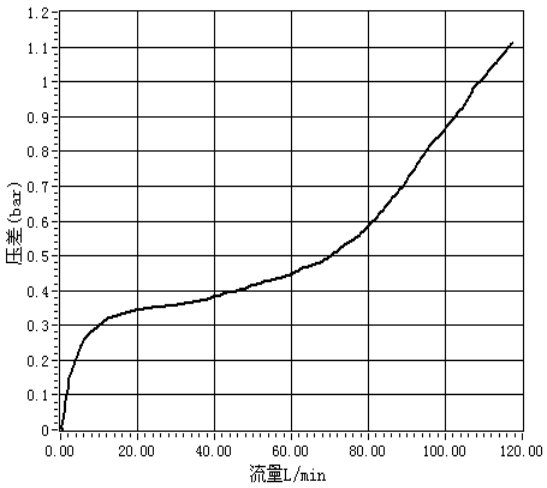


YXA-12	YXA-15
	

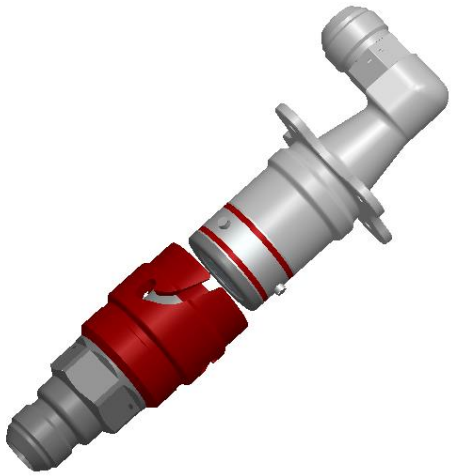
Specification	YXA-12	
Main material	aluminum alloy	stainless steel
Equivalent fluid size（mm）	Φ12	Φ12
Equivalent fluid section（mm^2）	113	113
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	33.9	
The maximum leakage during inserting（cm^3）	0.07	0.07
Weight of receptacle and plug（g）	213max	595max

Specification	YXA-15	
Main material	stainless steel	Ti alloy
Equivalent fluid size（mm）	Φ15	Φ15
Equivalent fluid section（mm^2）	176.7	176.7
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	53	
The maximum leakage during inserting（cm^3）	0.09	0.09
Weight of receptacle and plug（g）	363max	910max

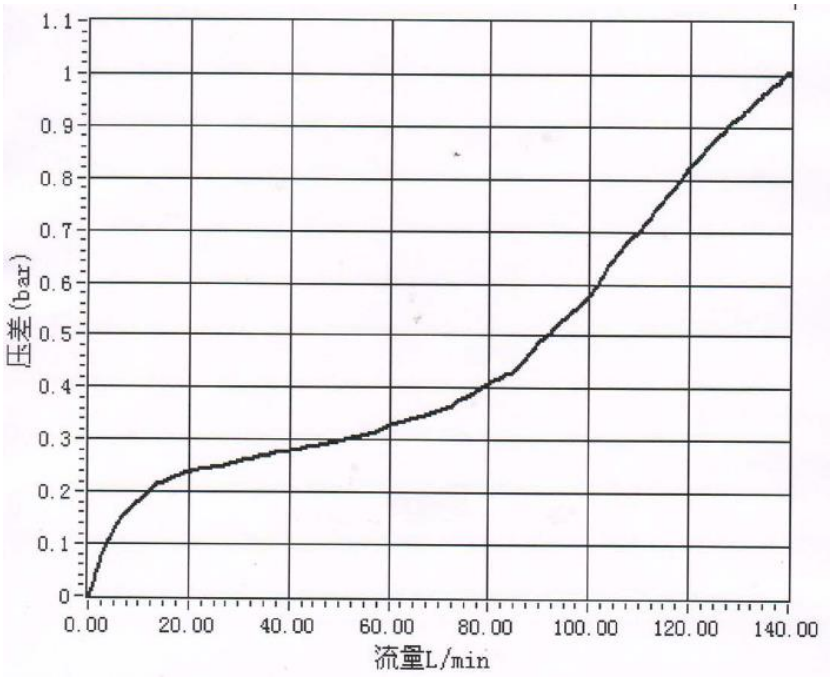




YXA-20



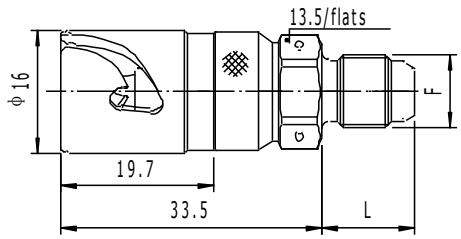
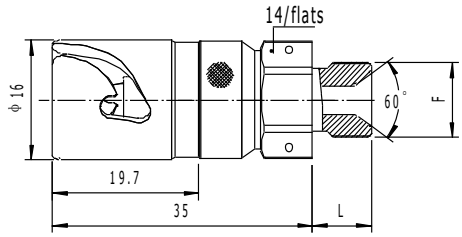
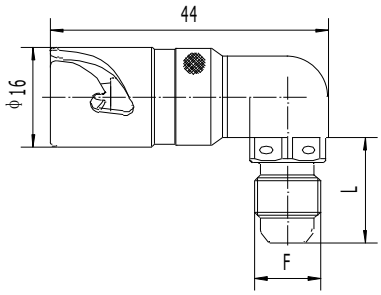
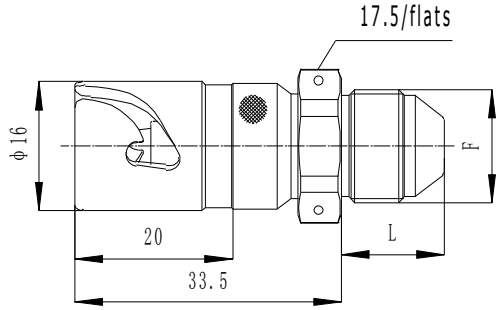
Specification	YXA-20
Main material	aluminum alloy
Equivalent fluid size（mm）	Φ20
Equivalent fluid section（mm^2）	314
Sealing system	duplex
MWP（bar）	15
The maximum working Flow（L/min）	94.2
The maximum leakage during inserting（cm^3）	0.2
Weight of receptacle and plug（g）	804.5max

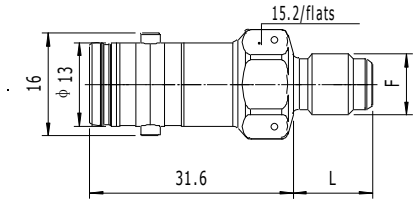


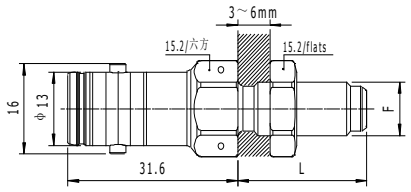
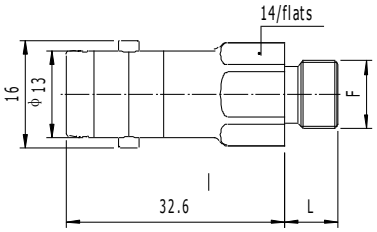
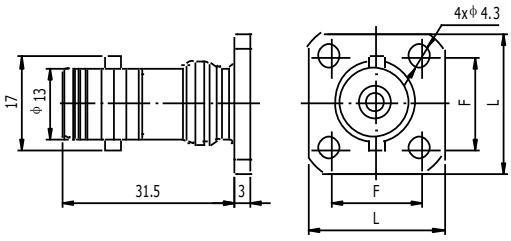
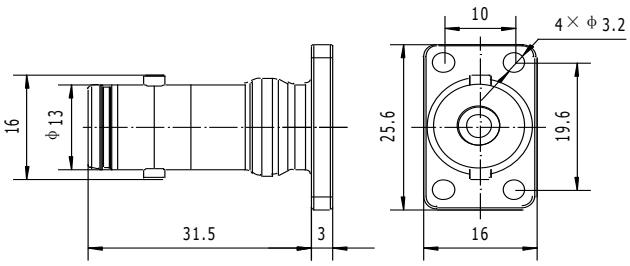
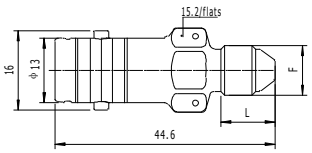
*** Flow curve test conditions——temperature：20℃；liquid medium：purified water；density：1000kg/m3**

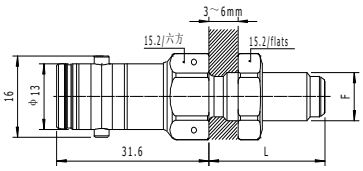
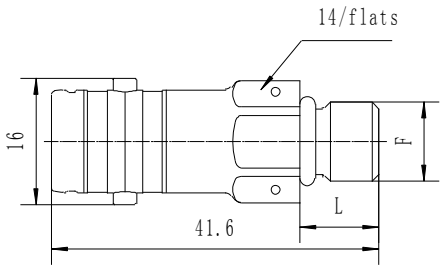
YXA series fluid cooling connectors outline dimensions

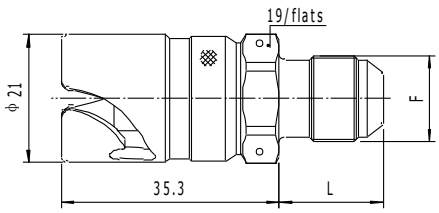
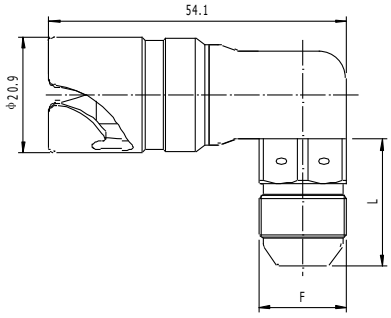
YXA-3T××			
Interface	Outline drawing	F	L

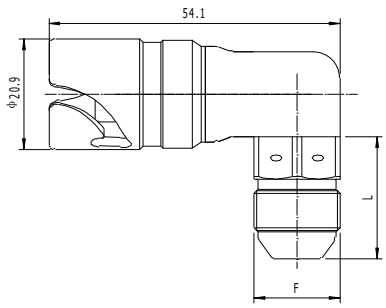
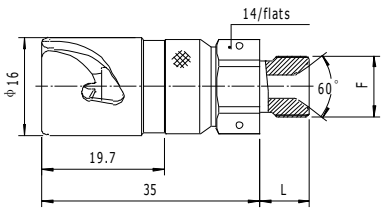
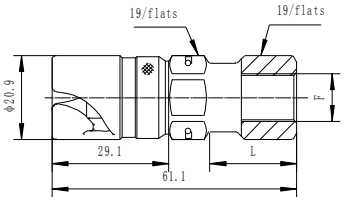
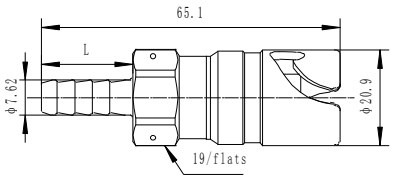
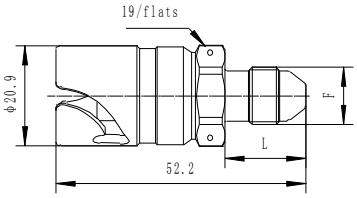
code			
01		UNF 3/8-24” JIC DASH 3	12
02		UNF 7/16-20” JIC DASH 4	14
03		M10×1-6g HB 4-3	11.45
04		M10×1-6g	8
05		M10×1-6g	17
06		M14×1-6g HB 4-3	13

YXA-3Z××			
Interface code	Outline drawing	F	L
01		UNF 3/8-24” JIC DASH 3	12

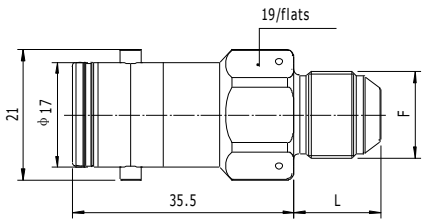
02		UNF 7/16-20” JIC DASH 4	14
03		UNF 3/8-24” JIC DASH 3	24
04		M10×1-6g	8
05		16.6	25
06		——	——
07		M10×1-6g HB 4-3	11

08		M10×1-6g HB 4-3	24
09		M10×1-6g	10

YXA-5T××			
Interface code	Outline drawing	F	L
01		M14×1-6g HB 4-3	16.9
02		UNF 9/16-18” JIC DASH 6	16.9
03		M16×1-6g HB 4-3	16.9
04		M16×1-6g HB 4-3	23

05		M14×1-6g HB 4-3	23
06		G1/4	8
07		NPT1/4	22
08		——	20
09		M12×1-6g	16.9

YXA-5Z××			
Interface code	Outline drawing	F	L

01		M14×1-6g HB 4-3	14
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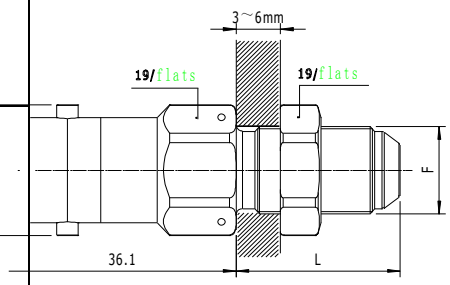
03		M14×1-6g HB 4-3	26
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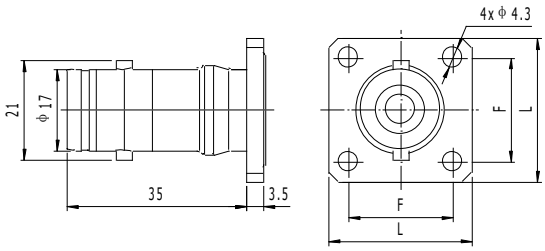
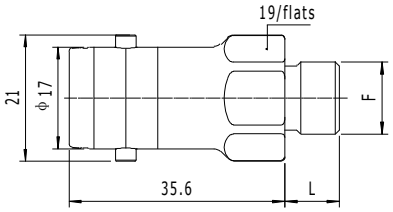
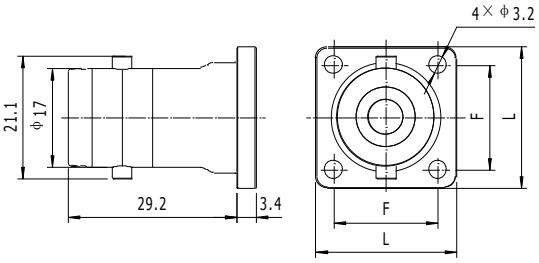
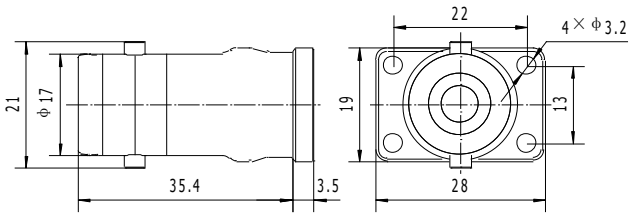
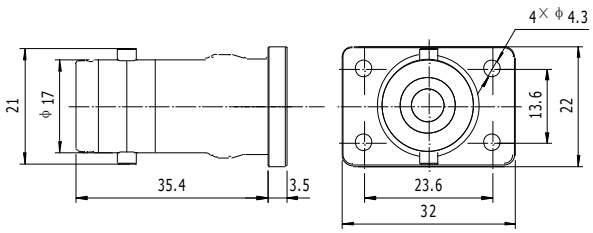
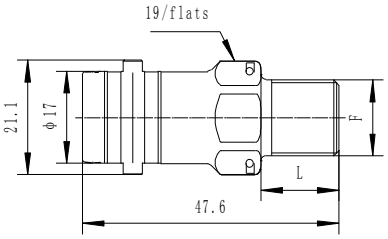
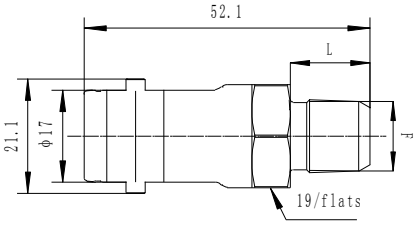
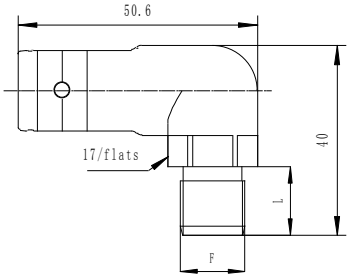
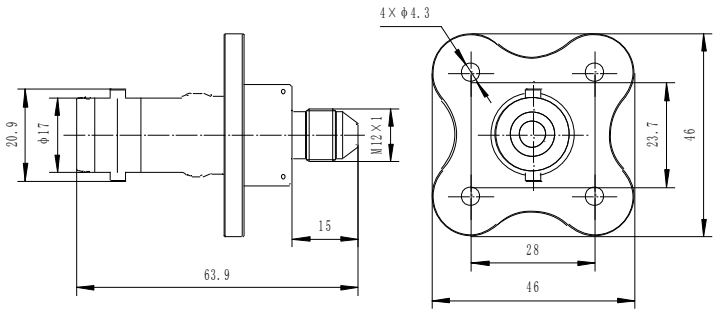
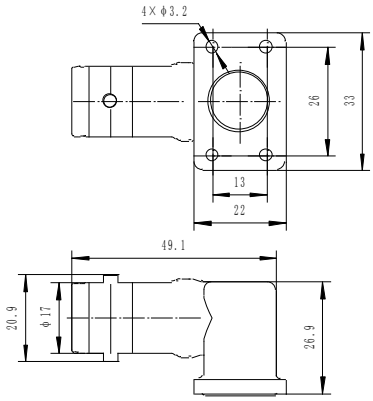
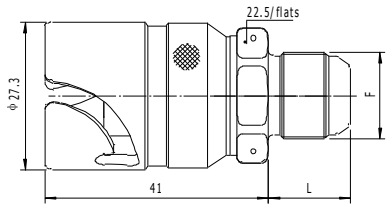
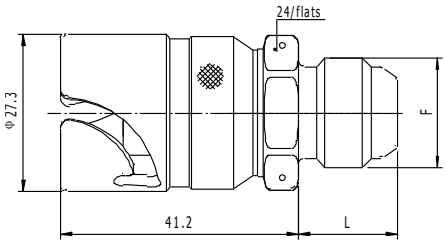
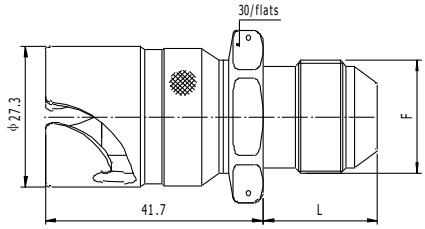
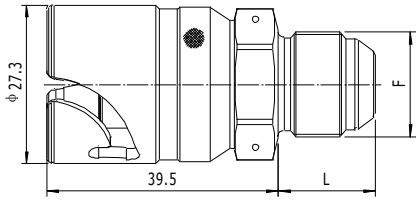
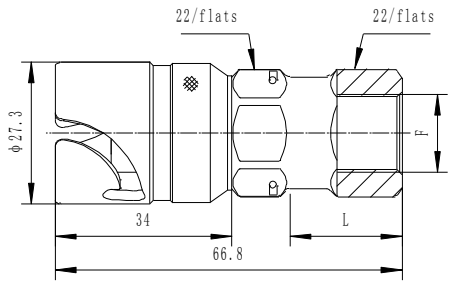
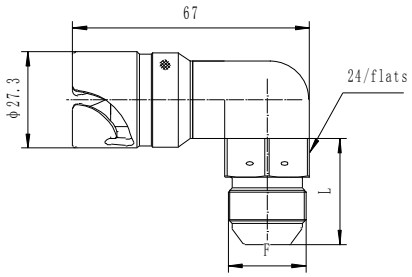
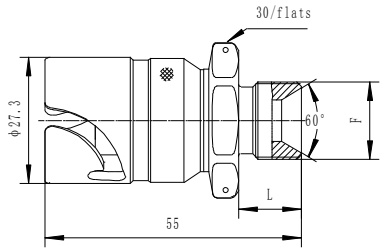
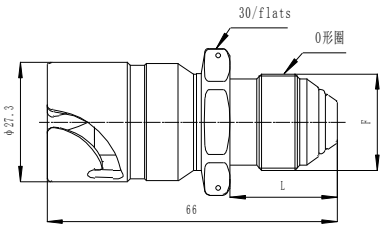
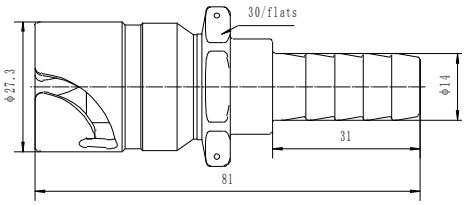
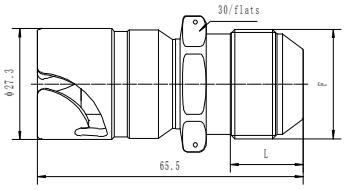
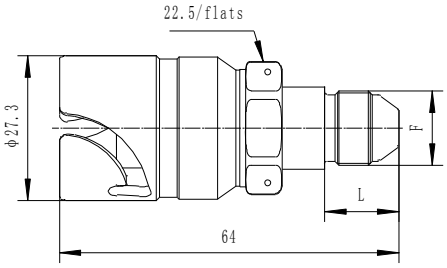
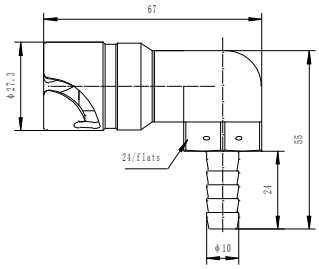
05		18	27.6
06		M12×1-6g	9
07		18	24.4
08		——	——

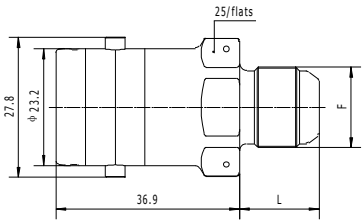
09		——	——
10		NPT1/4	14.5
11		NPT1/4	14.5
12		NPT1/4	14.5
13		——	——

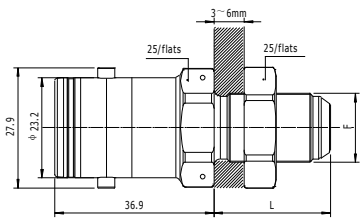
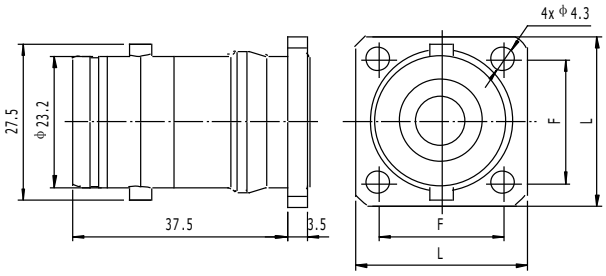
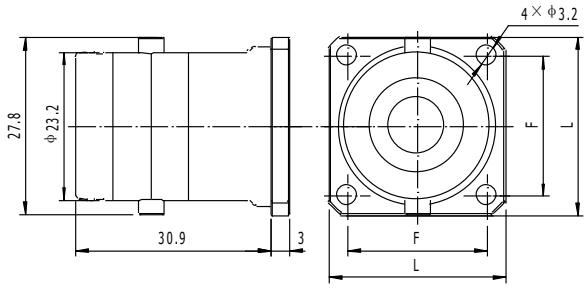
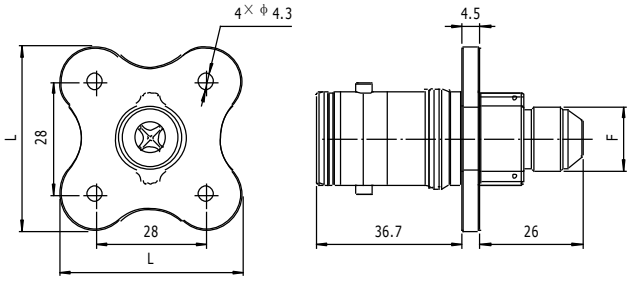
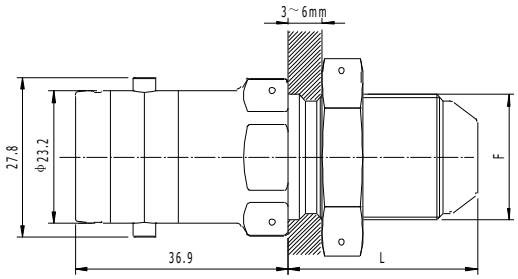
14		——	——

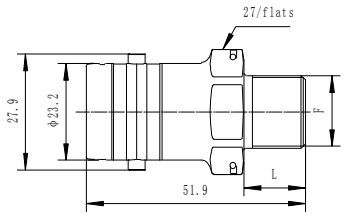
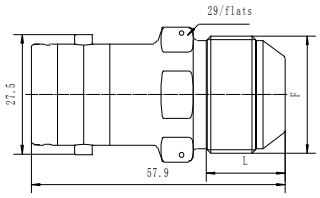
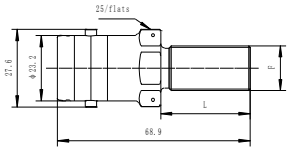
YXA-8T××			
Interface code	Outline drawing	F	L
01		M16×1-6g HB 4-3	15
02		UNF 3/4-16” JIC DASH 8	17
03		M22×1.5-6g HB4-3	21.85
04		M16×1-6g HB 4-3	15
05		M18×1.5-6g HB 4-3	16.5

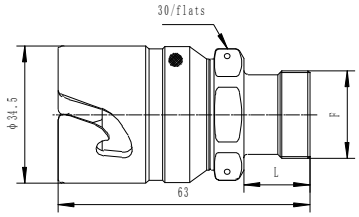
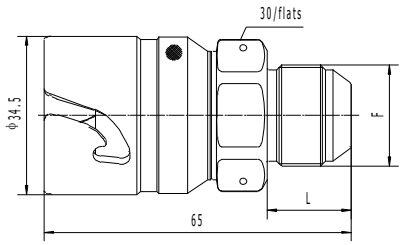
06		NPT/3/8	22
07		M22×1.5-6g HB 4-3	30
08		G3/8	13.5
09		M22×1.5	24.4

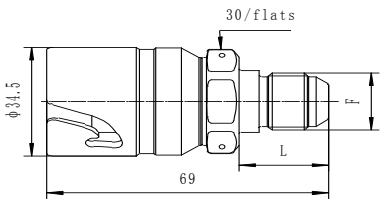
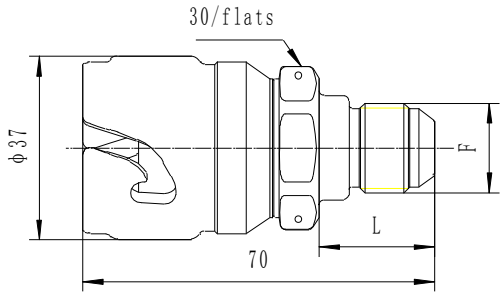
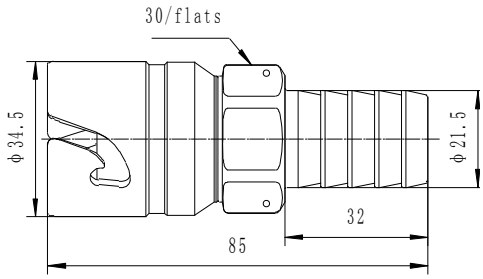
10		——	——
11		M27×1.5-6g HB 4-3	18
12		M14×1-6g	14
13		——	——

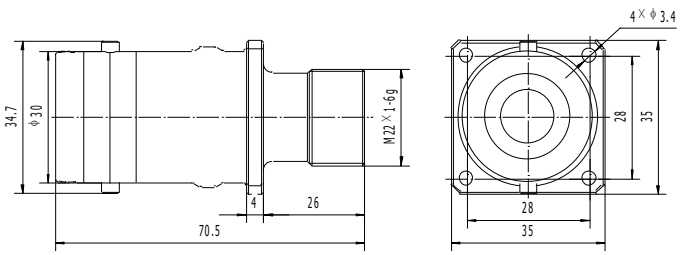
YXA-8Z××			
Interface code	Outline drawing	F	L
01		M16×1-6g HB 4-3	16

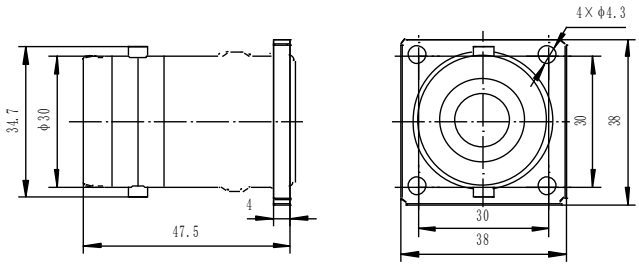
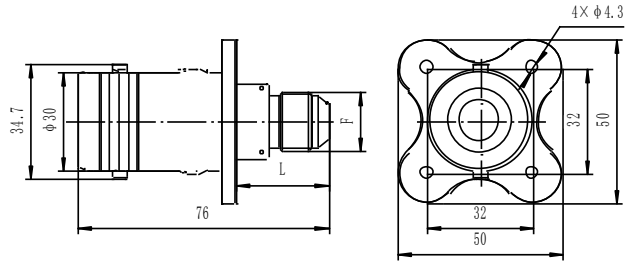
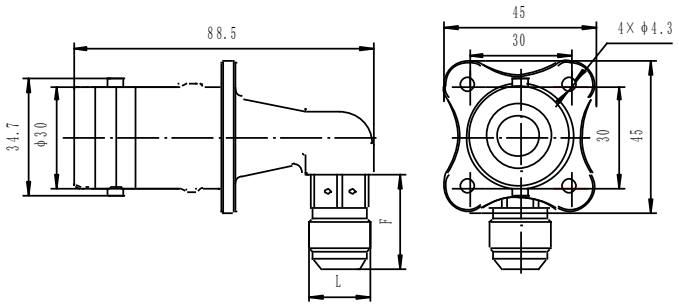
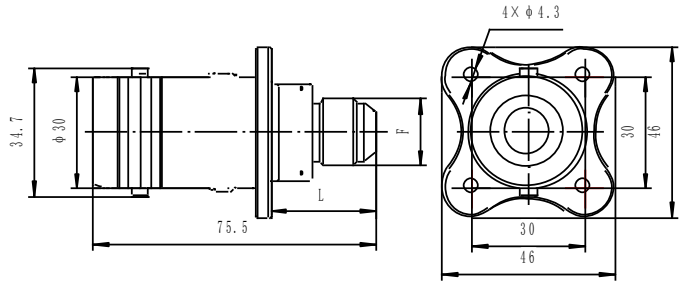
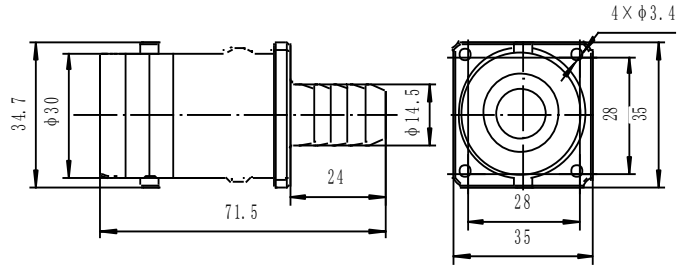
02		UNF 3/4-16” JIC DASH 8	17
03		M16×1-6g HB 4-3	27
04		UNF 3/4-16” JIC DASH 8	30
05		22	30
06		22	28
07		M16×1-6g HB 4-3	46
08		M22×1.5-6g HB 4-3	33

09		NPT/3/8	14.5
10		M27×1.5-6g HB 4-3	18
11		M16×1.5	32

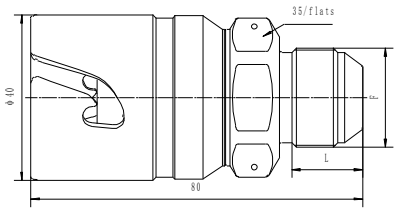
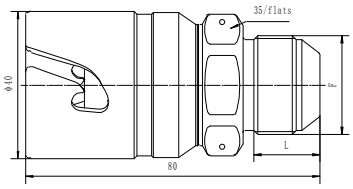
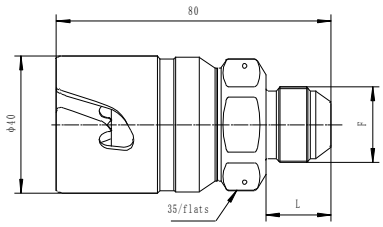
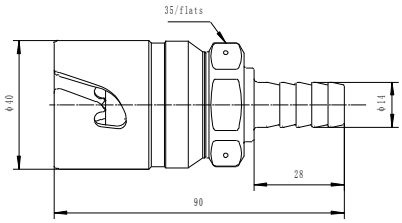
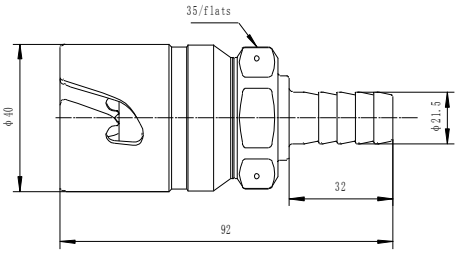
YXA-10T××			
Interface code	Outline drawing	F	L
01		M22×1-6g	16.5
02		M22×1.5-6g HB 4-3	18

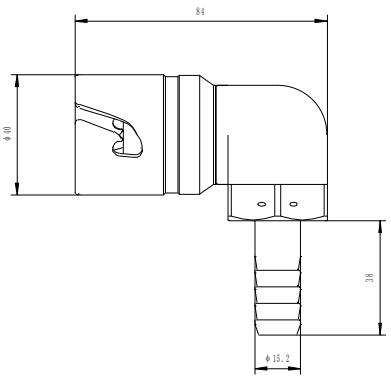
03		M18×1.5-6g	22
04		M18×1.5-6g	23
06		——	——

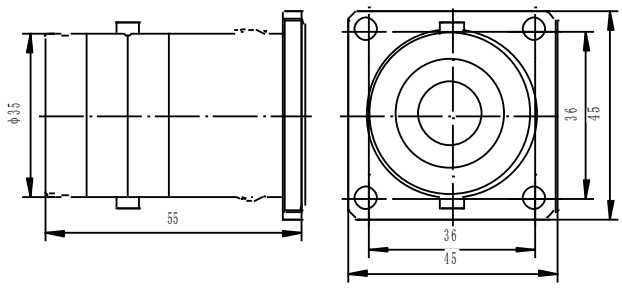
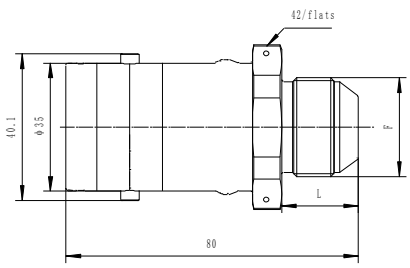
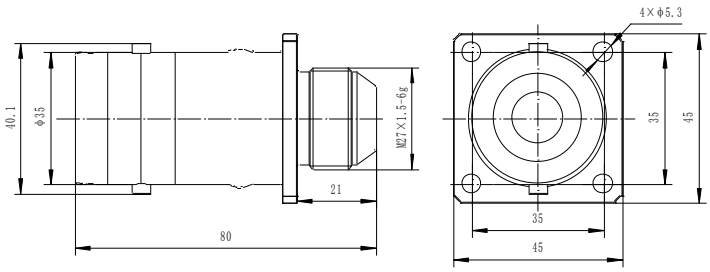
YXA-10Z××			
Interface code	Outline drawing	F	L
01		——	——

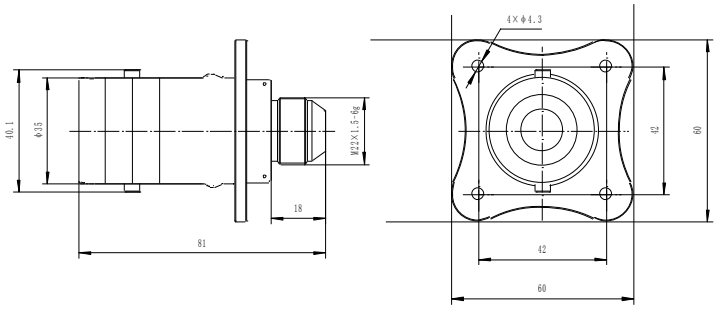
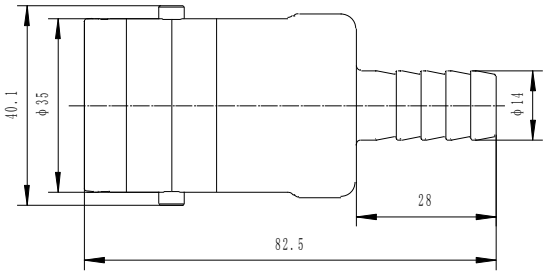
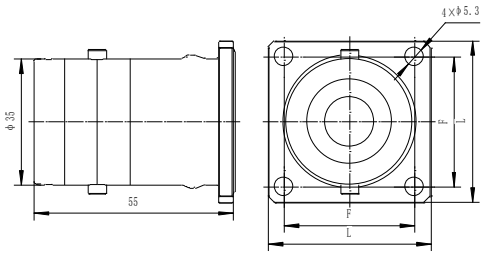
02		——	——
03		M18×1.5-6g	28
04		M18×1.5-6g （HB4-3-2002）	28
05		M18×1.5-6g （HB4-3-2002）	28
06		——	——

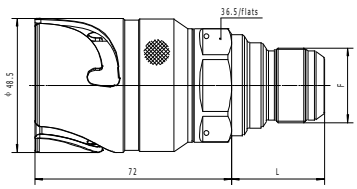
YXA-12T××			
Interface code	Outline drawing	F	L

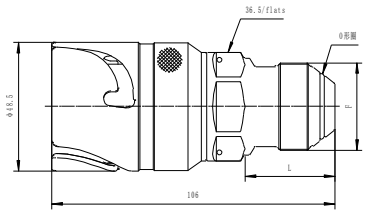
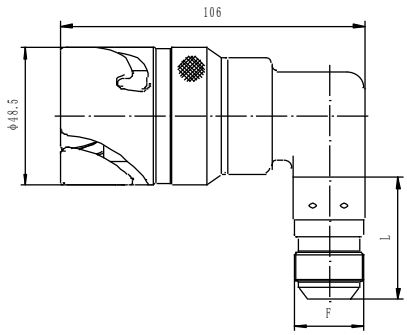
01		M24×1.5-6g	17
02		M27×1.5-6g	18
03		M22×1.5-6g	19
04		——	——
05		——	——

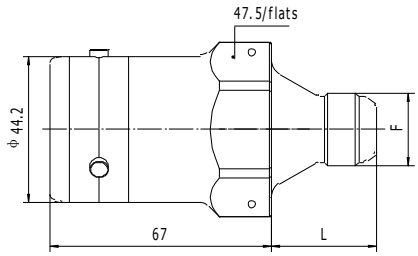
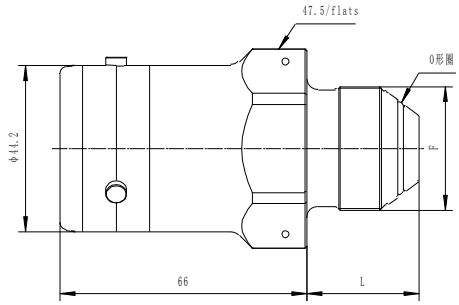
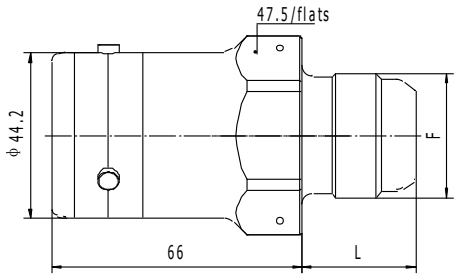
06		——	——

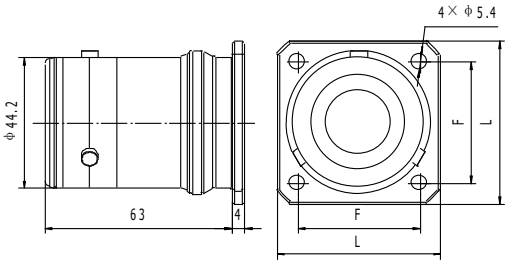
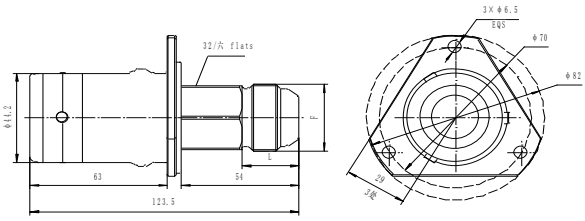
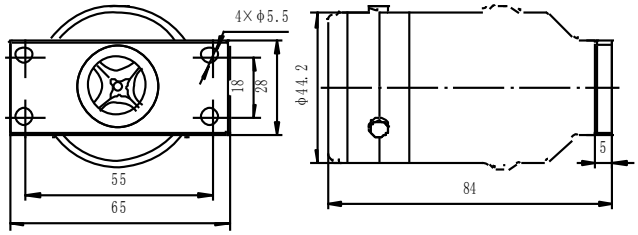
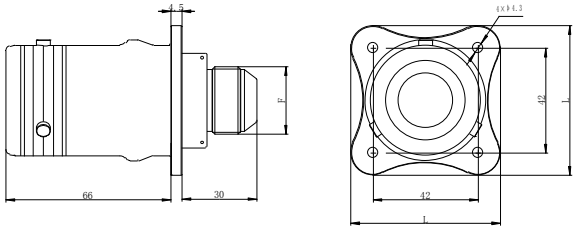
YXA-12Z××			
Interface code	Outline drawing	F	L
01		——	——
02		M27×1.5-6g	21
03		——	——

04		——	——
05		——	——
06		35	45

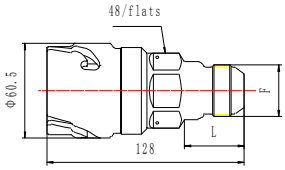
YXA-15T××			
Interface code	Outline drawing	F	L
01		M27×1.5-6g HB 4-3	34
05		M33×2-6g	34

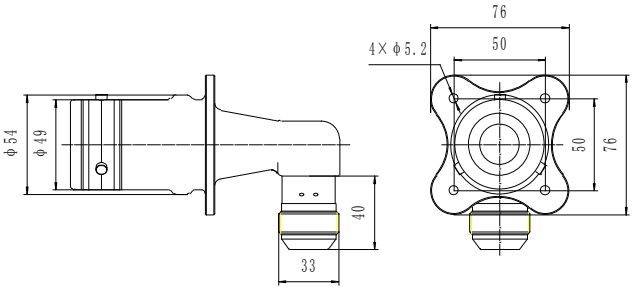
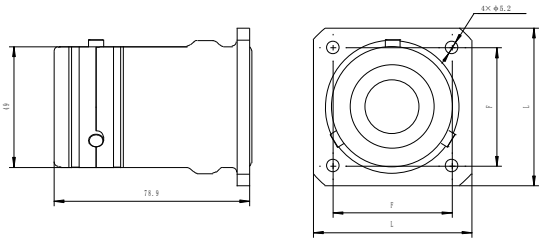
03		M33×2-6g	34
04		M24×1.5-6g HB 4-3	43

YXA-15Z××			
Interface code	Outline drawing	F	L
02		M22×1.5-6g HB 4-3	32
03		M33×2-6g	30
04		M39×2-6g HB 4-3	30

08		M33×2-6g	30
05		41	55
06		M33×2-6g	26
07		——	——
10		M27×1.5-6g	60

YXA-20T××			
Interface code	Outline drawing	F	L

01		M33×2-6g	39

YXA-20Z××			
Interface code	Outline drawing	F	L
01		M33×2-6g	40
03		48	64

YXC series steel ball locking fluid cooling connectors

Brief introduction

YXC series fluid cooling connectors are widely used in a variety of liquid cooling systems, mainly for interconnections among units at chassis exterior of ground vehicles, radar fluid cooling systems.

- Mating and locking only through push-pull by steel ball locking method.
- automatically sealed to prevent leakage during disconnection
- do not cause leakage of the internal liquid during normal mating.
- shell material can choose aluminum alloy, mainly for geographical environment.
- With strong abrasion resistance and corrosion resistance.
- Execute the enterprise standard: Q/21EJ857

Main technical performances

——Shell：high strength aluminum alloy，Ti alloy or stainless steel。
——plating：Hard anodization and passivation
——grommet：High strength fluorine and silicone rubber、fluorine rubber、EPDM rubber
——Shock：half sinusoid，peak acceleration 15g，pulse duration 11ms，3 times for each axis
——Random vibration：15~2000Hz，power spectral density 0.04g2/Hz，duration 0.5h
——durability：500 cycles

Designation

Series	YX	C	-3	T	01	Al	JE
Coupling	C－push pull						
Flow Specification	3－equivalent diameter of 7 ㎟ Fluid effective cross-sectional area 5－equivalent diameter of 19.6 ㎟ Fluid effective cross-sectional area 8－equivalent diameter of 50 ㎟ Fluid effective cross-sectional area 12－equivalent diameter of 113 ㎟ Fluid effective cross-sectional area						
Connector type	T－plug Z－receptacle						
Interface code	01… （These specifications have different interface flow code options, see specific dimensions）						
Basic material	Al－aluminum alloy Ti－Ti alloy SS－stainless steel						
Fit liquid	JE－braking fluid，hot water，steamed water，silicone oil，purified water（operating temperature-55~+125℃） JF－fuel oil，aviation fuel oil，strong acid，purified water，strong alkali and other solutions（operating temperature-30~+232℃） JM－PAO，fuel oil，aviation fuel oil，nitrogen，purified water，antifreeze solution，silicone oil（operating temperature-55~+177℃）						

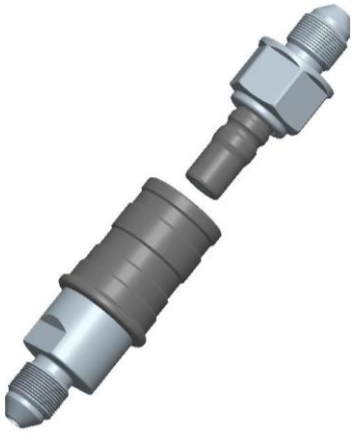
Designation example:

YXC-8Z01AlJE：p ush pull fluid cooling connectors, Φ 8 equivalent diameter（s ectional area of 50mm^2）, receptacle, Interface code 01, basic material aluminum alloy, choose JE liquid medium and operation temperature.

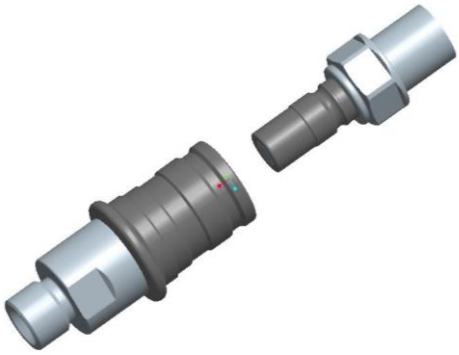
YXC-5T03TiJM：push pull fluid cooling connectors Φ5equivalent diameter（sectional area of 19.6mm^2），plug，Interface code 03，basic material Ti alloy，choose JM liquid medium and operation temperature。

[YXC Series fluid cooling connectors application performances]

VUC-3

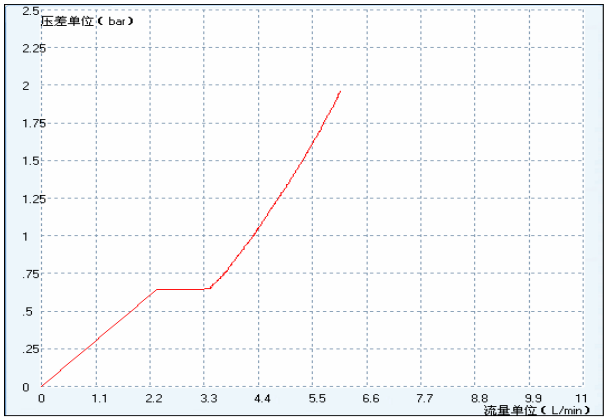


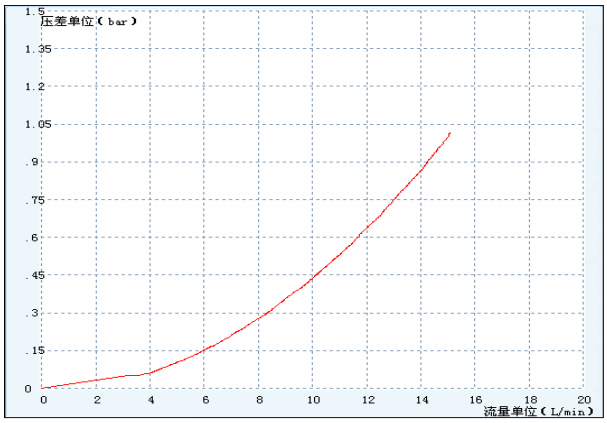
VUC-5



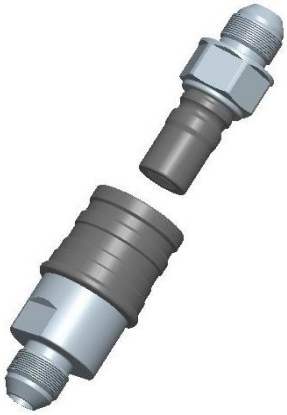
Specification	YXC-3	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ3	Φ3
Equivalent fluid section（mm^2）	7	7
Sealing system	duplex	duplex
MWP（bar）	20	20
The maximum working Flow（L/min）	2.1	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	35max	52max

Specification	YXC-5	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ5	Φ5
Equivalent fluid section（mm^2）	19.6	19.6
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	5.88	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	59max	86max

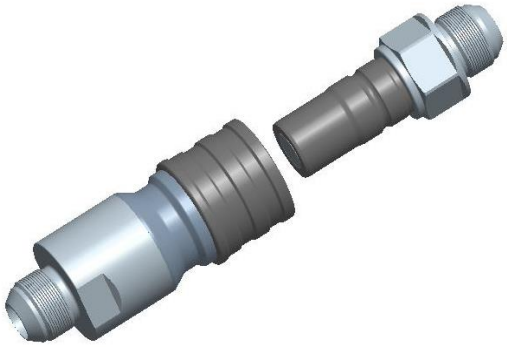




YXC-8

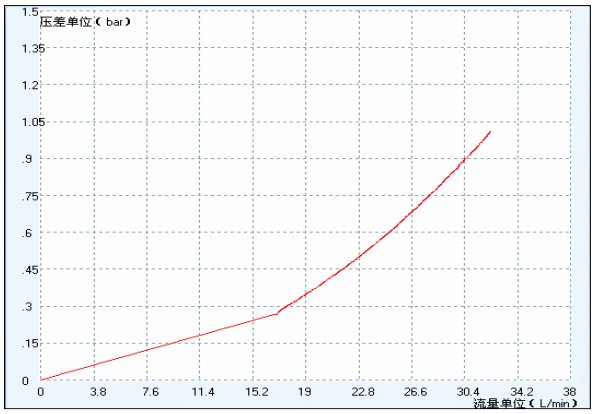


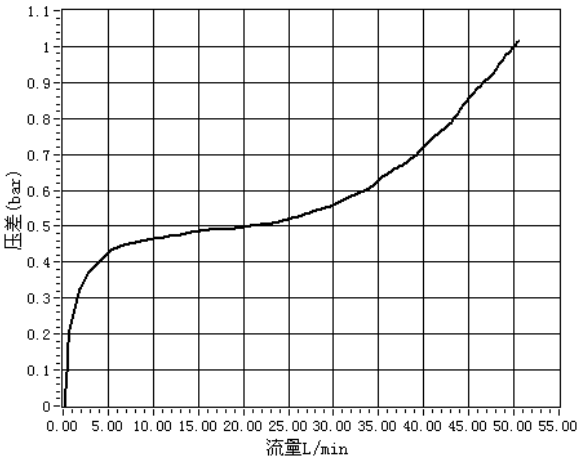
YXC-12



Specification	YXC-8	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ8	Φ8
Equivalent fluid section（mm^2）	50	50
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	15	
The maximum leakage during inserting（cm^3）	0.03	0.03
Weight of receptacle and plug（g）	88max	135max

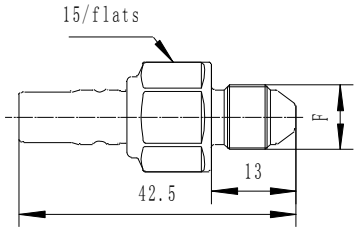
Specification	YXC-12	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ12	Φ12
Equivalent fluid section（mm^2）	113	113
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	33.9	
The maximum leakage during inserting（cm^3）	0.05	0.05
Weight of receptacle and plug（g）	321max	437max

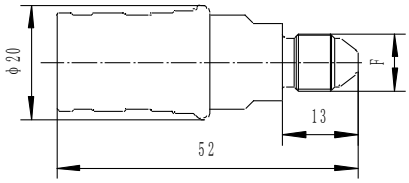


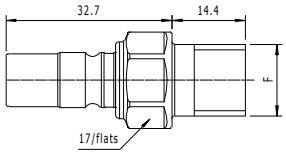


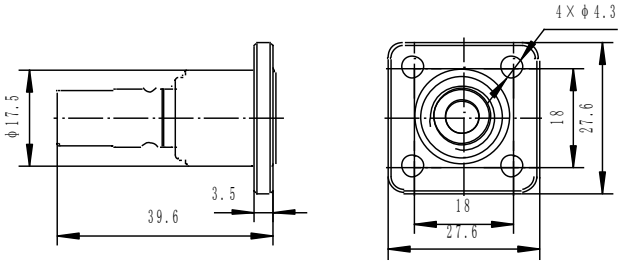
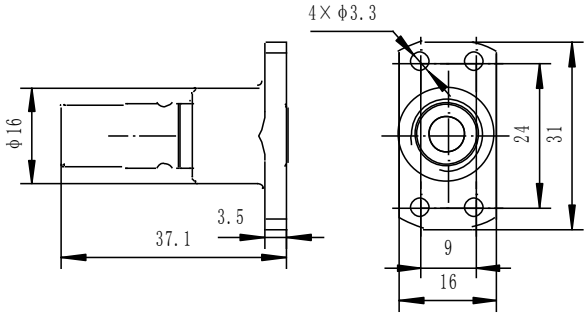
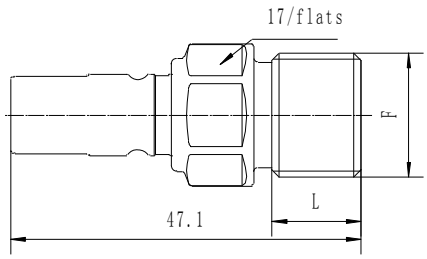
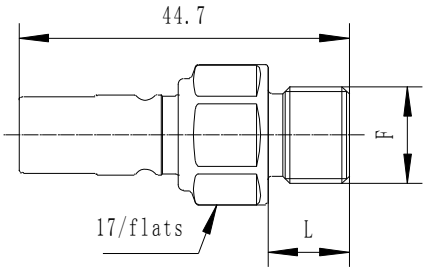
*** Flow curve test conditions——temperature：20℃；liquid medium：purified water；density：1000kg/m3**

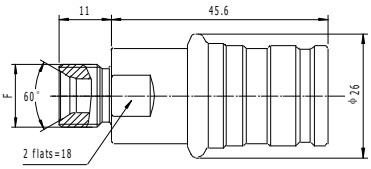
YXC series fluid cooling connectors outline dimensions

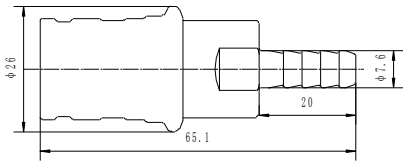
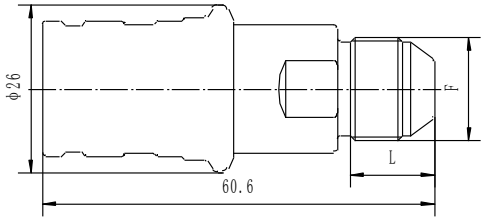
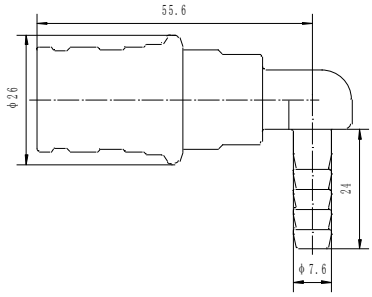
YXC-3T××			
Interface code	Outline drawing	F	L
01		M10×1-6g	——

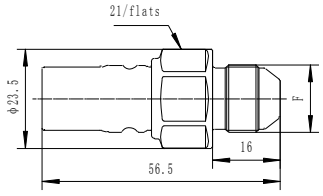
YXC-3Z××			
Interface code	Outline drawing	F	L
01		M10×1-6g	——

YXC-5T××			
Interface code	Outline drawing	F	L
01		1/4-18NPT	——

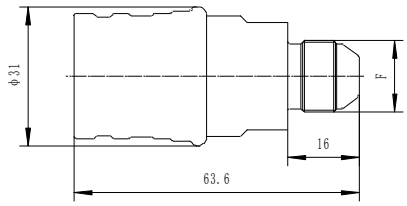
02		——	——
03		——	——
04		G3/8	12
05		G1/4	11

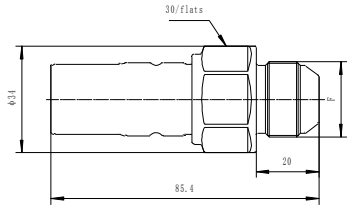
YXC-5Z××			
Interface code	Outline drawing	F	L
01		G1/4	——

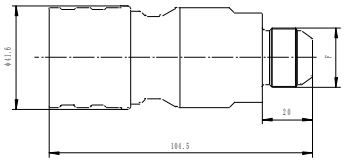
02		——	——
03		M16×1-6g	13
04			

YXC-8T××			
Interface code	Outline drawing	F	L
01		M16×1-6g	——

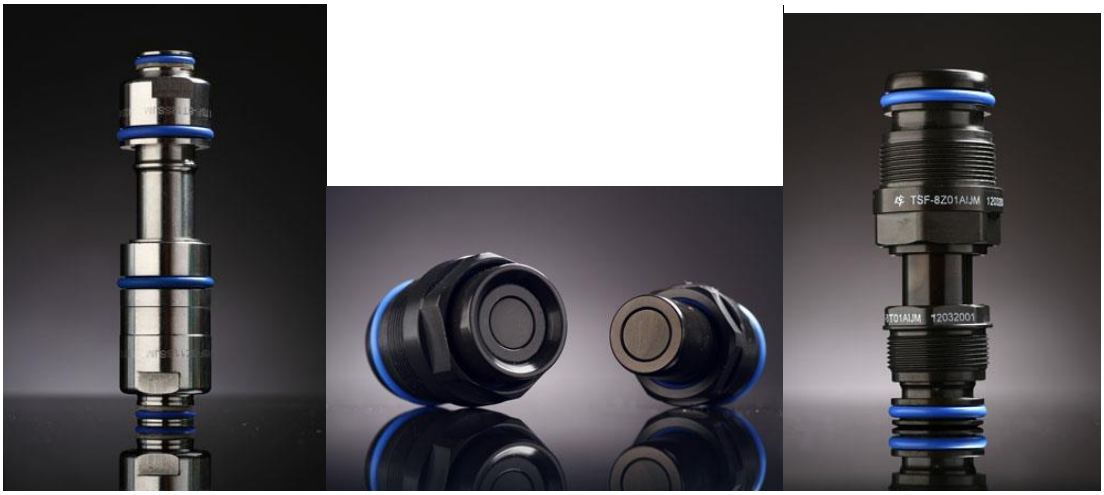
YXC-8Z××			
Interface code	Outline drawing	F	L

01		M16×1-6g	——

YXC-12T××			
Interface code	Outline drawing	F	L
01		M24×1.5-6g	——

YXC-12Z××			
Interface code	Outline drawing	F	L
01		M24×1.5-6g	——

YXF series blind mating fluid cooling connectors



Brief introduction

YXF Series fluid cooling connectors are widely used in a variety of liquid cooling systems, mainly for various types of liquid-cooled chassis and equipment interior part, to realize the quick connection of module (board card) with chassis.

- automatically sealed to prevent leakage during disconnection
- without locking mechanism
- do not cause leakage of the internal liquid during normal mating.
- shell material can choose aluminum alloy, stainless steel and titanium alloy
- aluminum alloy shell with hard anodized, with strong abrasion resistance and corrosion resistance.
- with radial float function, reducing the mating pair alignment accuracy.
- Execute the enterprise standard: Q/21EJ857.

Main technical performances

——Shell：high strength aluminum alloy，Ti alloy or stainless steel。
——plating：Hard anodization and passivation
——grommet：High strength fluorine and silicone rubber、fluorine rubber、EPDM rubber
——Shock：half sinusoid，peak acceleration 15g，pulse duration 11ms，3 times for each axis
——Random vibration：15~2000Hz，power spectral density 0.04g2/Hz，duration 0.5h
——durability：500 cycles

Designation

Series	YX	F	-3	T	01	Al	JE
Coupling	F—blind mating						
Flow Specification	3—equivalent diameter of 7 mm2 Fluid effective cross-sectional area 5—equivalent diameter of 19.6 mm2 Fluid effective cross-sectional area 8—equivalent diameter of 50 mm2 Fluid effective cross-sectional area 12-equivalent diameter of 113 mm2 Fluid effective cross-sectional area						
Connector type	T—plug Z—receptacle						
Interface code	01… 11… 21… （These specifications have different interface flow code options, see specific dimensions）						
Basic material	Al—aluminum alloy Ti—Ti alloy SS—stainless steel						
Fit liquid	JE—braking fluid，hot water，steamed water，silicone oil，purified water（operating temperature-55~+125℃） JF—fuel oil，aviation fuel oil，strong acid，purified water，strong alkali and other solutions（operating temperature-30~+232℃） JM—PAO，fuel oil，aviation fuel oil，nitrogen，purified water，antifreeze solution，silicone oil（operating temperature-55~+177℃）						

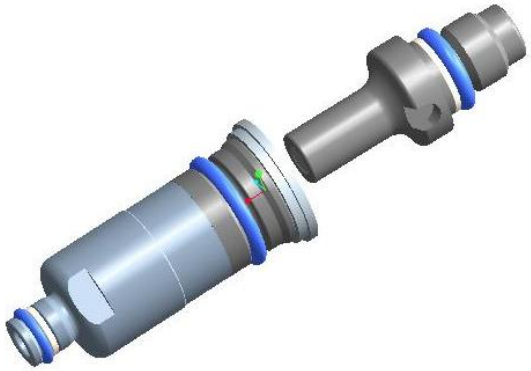
Designation example:

YXF-8Z01AlJE：bayonet fluid cooling connectors，Φ8 equivalent diameter（sectional area of 50mm^2）receptacle，Interface code 01，basic material aluminum alloy，choose JE liquid medium and operation temperature。

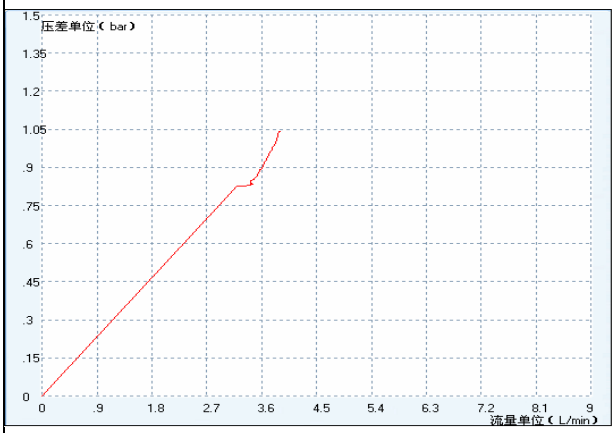
YXF-5T02TiJM：bayonet fluid cooling connectors，Φ5equivalent diameter（sectional area of 19.6mm^2），plug，Interface code 02，basic material Ti alloy，choose JM liquid medium and operation temperature。

[YXF Series fluid cooling connectors application performances]

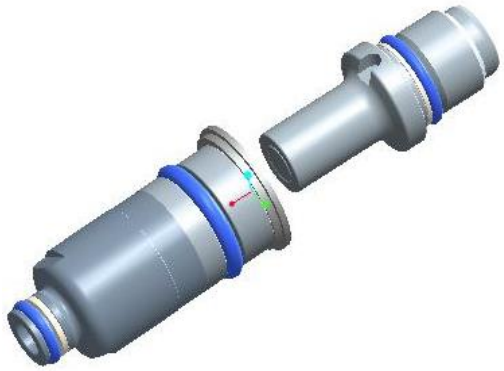
YXF-3T/Z1



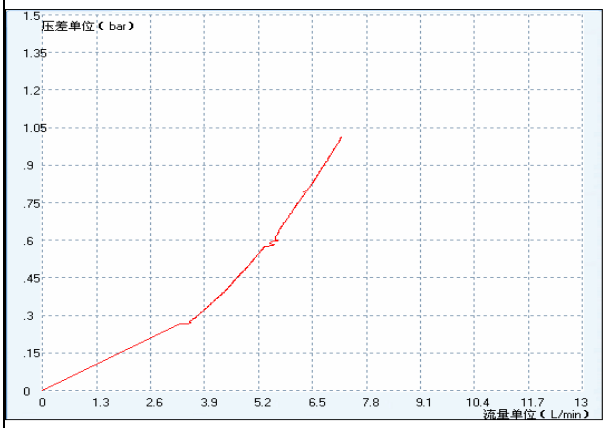
Specification	YXF-3	
Main material	stainless steel	Ti alloy
Equivalent fluid size（mm）	Φ3	Φ3
Equivalent fluid section（mm^2）	7	7
Sealing system	duplex	duplex
MWP（bar）	450	450
The maximum working Flow（L/min）	2.1	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	29max	18max



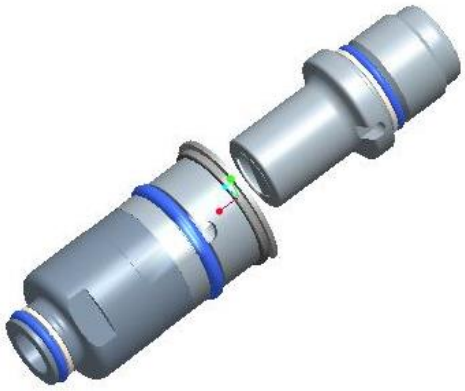
YXF-5T/Z1



Specification	YXF-5	
Main material	stainless steel	Ti alloy
Equivalent fluid size（mm）	Φ5	Φ5
Equivalent fluid section（mm^2）	19.6	19.6
Sealing system	duplex	duplex
MWP（bar）	300	300
The maximum working Flow（L/min）	5.88	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	77max	46max



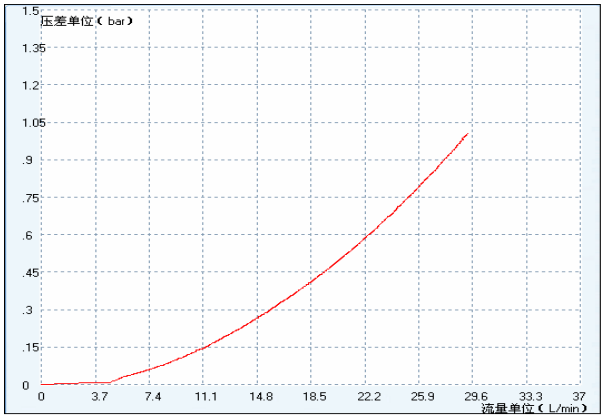
YXF-8T/Z1

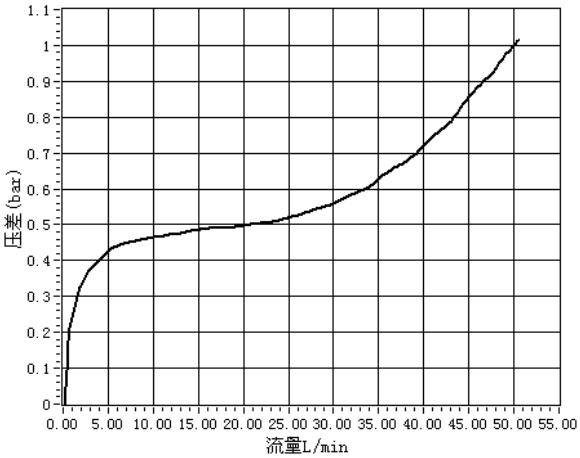


YXF-12T/Z1

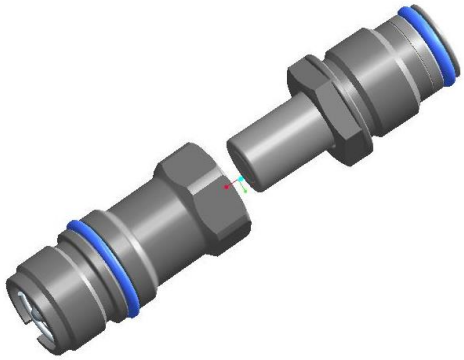
Specification	YXF-8	
Main material	stainless steel	Ti alloy
Equivalent fluid size（mm）	Φ8	Φ8
Equivalent fluid section（mm^2）	50	50
Sealing system	duplex	duplex
MWP（bar）	250	250
The maximum working Flow（L/min）	15	
The maximum leakage during inserting（cm^3）	0.03	0.03
Weight of receptacle and plug（g）	151max	91max

Specification	YXF-12	
Main material	stainless steel	Ti alloy
Equivalent fluid size（mm）	Φ12	Φ12
Equivalent fluid section（mm^2）	113	113
Sealing system	duplex	duplex
MWP（bar）	160	160
The maximum working Flow（L/min）	33.9	
The maximum leakage during inserting（cm^3）	0.05	0.05
Weight of receptacle and plug（g）	364max	217max

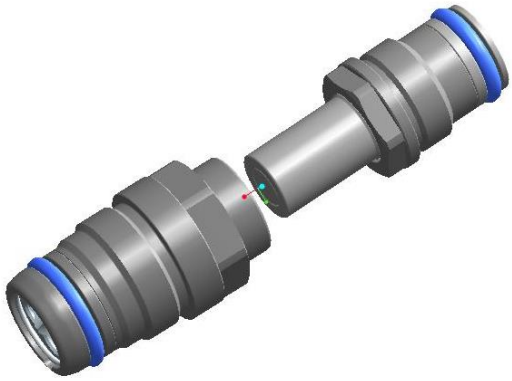




YXF-3T/Z0

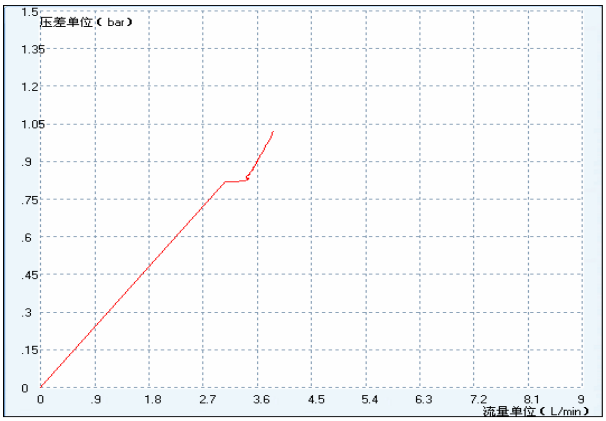


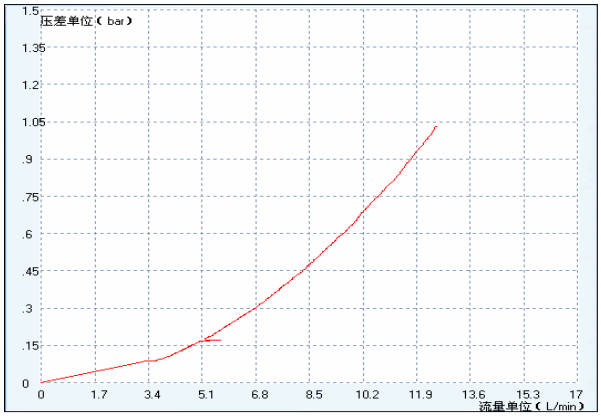
YXF-5T/Z0



Specification	YXF-3	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ3	Φ3
Equivalent fluid section（mm^2）	7	7
Sealing system	duplex	duplex
MWP（bar）	20	20
The maximum working Flow（L/min）	2.1	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	8max	10max

Specification	YXF-5	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ5	Φ5
Equivalent fluid section（mm^2）	19.6	19.6
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	5.88	
The maximum leakage during inserting（cm^3）	0.02	0.02
Weight of receptacle and plug（g）	25max	38max



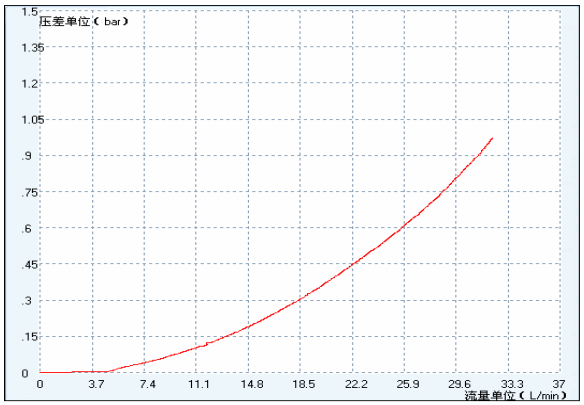


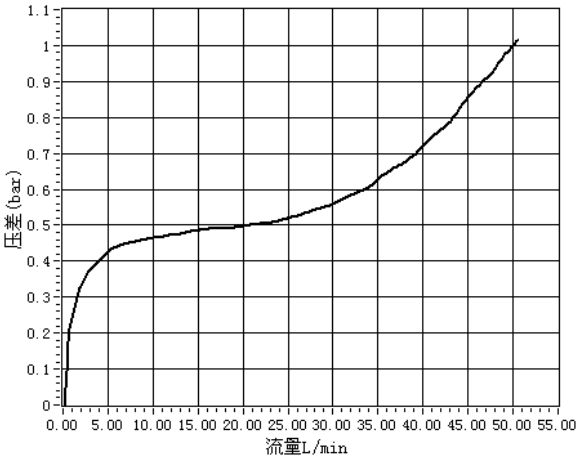
YXF-8T/Z0

YXF-12T/Z0

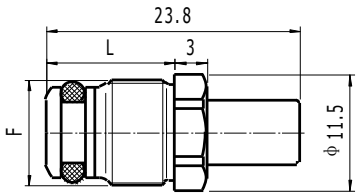
Specification	YXF-8	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ8	Φ3
Equivalent fluid section（mm^2）	50	50
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	15	
The maximum leakage during inserting（cm^3）	0.03	0.03
Weight of receptacle and plug（g）	45max	62max

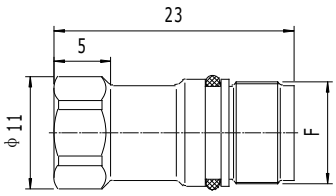
Specification	YXF-12	
Main material	aluminum alloy	Ti alloy
Equivalent fluid size（mm）	Φ12	Φ12
Equivalent fluid section（mm^2）	113	113
Sealing system	duplex	duplex
MWP（bar）	30	30
The maximum working Flow（L/min）	33.9	
The maximum leakage during inserting（cm^3）	0.05	0.05
Weight of receptacle and plug（g）	140max	175max



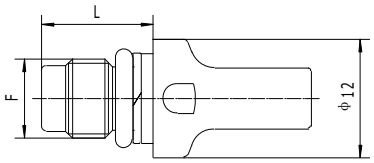
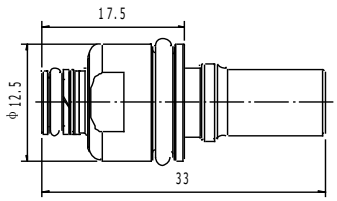


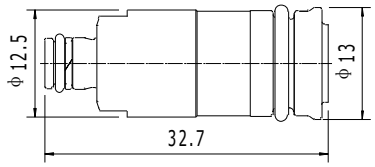
YX Fseries fluid cooling connectors outline dimensions

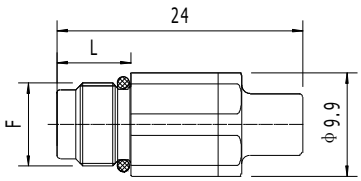
YXF-3T0××			
Interface code	Outline drawing	F	L
01		M10×0.75-6g	12

YXF-3Z0××			
Interface code	Outline drawing	F	
01		M10×0.75-6g	——

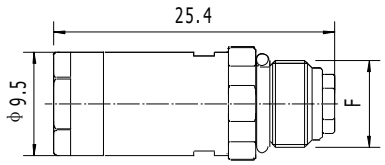
YXF-3T1××			
Interface	Outline drawing	F	L

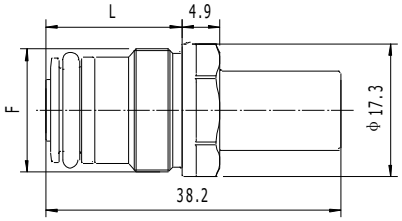
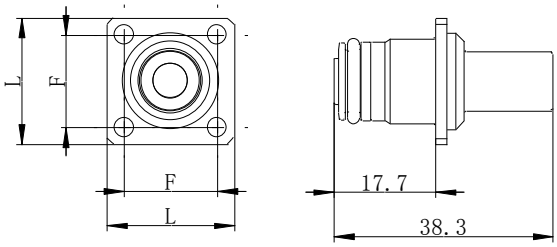
code			
11		M8×1-6g	11.5
12		——	——

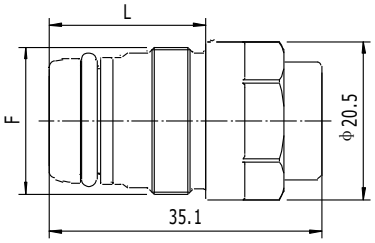
YXF-3Z1××			
Interface code	Outline drawing	F	L
11		——	——

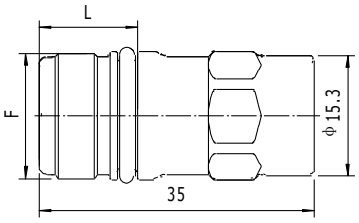
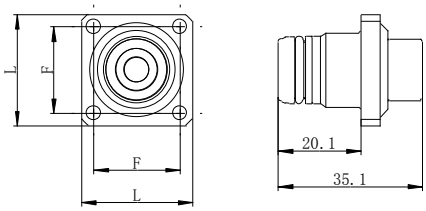
YXF-3T2××			
Interface code	Outline drawing	F	L
21		M8×0.75-6g	7.2

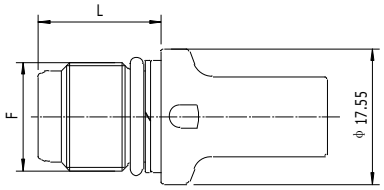
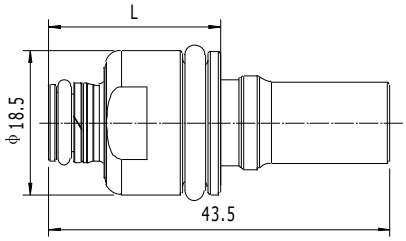
YXF-3Z2××			
Interface code	Outline drawing	F	L

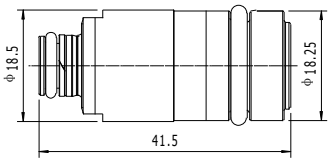
21		M8×0.75-6g	——

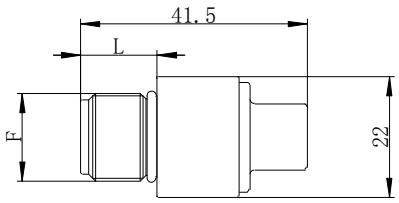
YXF-5T0××			
Interface code	Outline drawing	F	L
01		M16×0.75-6g	17.6
02		16.3	22.3

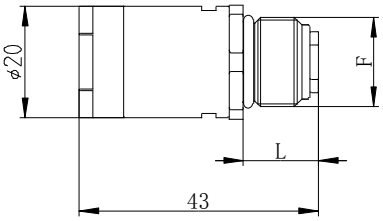
YXF-5Z0××			
Interface code	Outline drawing	F	L
01		M19×1-6g	20.1

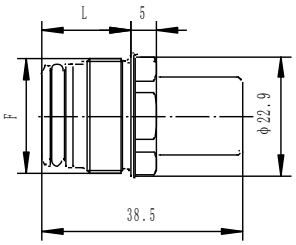
02		M16×0.75-6g	12.5
03		21	27

YXF-5T1××			
Interface code	Outline drawing	F	L
11		M14×1.5-6g	16
12		——	21.9

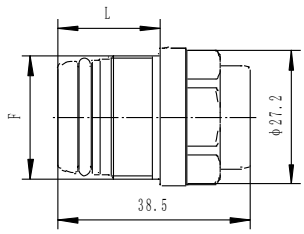
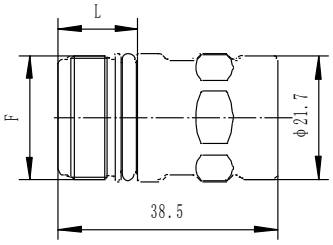
YXF-5Z1××			
Interface code	Outline drawing	F	L
11		——	——

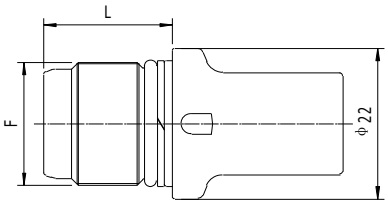
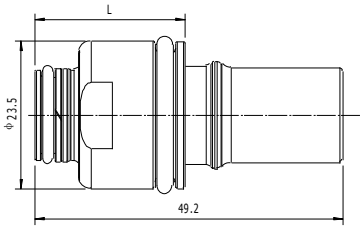
YXF-5T2××			
Interface code	Outline drawing	F	L
21		M16×1-6g	14

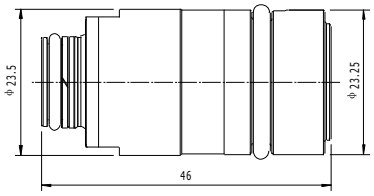
YXF-5Z2××			
Interface code	Outline drawing	F	L
21		M16×1-6g	13.5

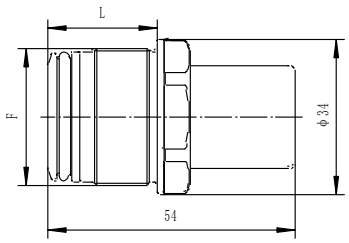
YXF-8T0××			
Interface code	Outline drawing	F	L
01		M22×1-6g	17

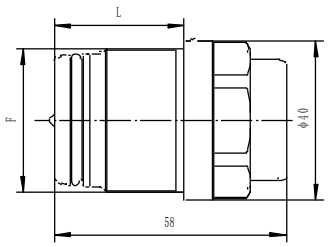
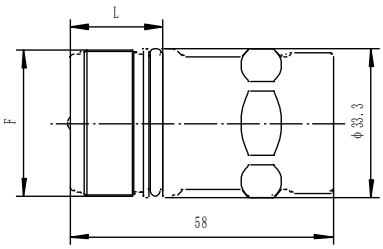
YXF-8Z0××			
Interface code	Outline drawing	F	L

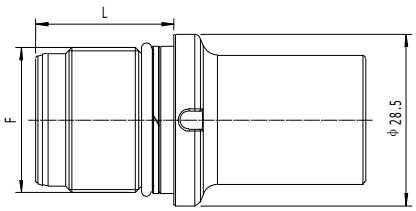
01		M25×1-6g	20.5
02		M22×1-6g	14

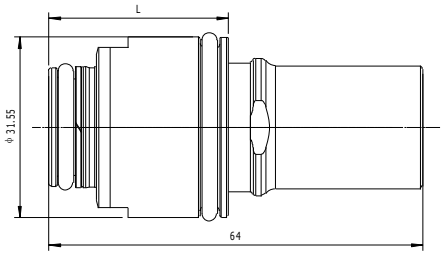
YXF-8T1××			
Interface code	Outline drawing	F	L
11		M18×1.5-6g	18.5
12		——	24

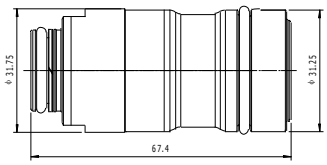
YXF-8Z1××			
Interface code	Outline drawing	F	L
11		——	——

YXF-12T0××			
Interface code	Outline drawing	F	L
01		M30×1-6g	24

YXF-12Z0××			
Interface code	Outline drawing	F	L
01		M36×1.5-6g	32.5
02		M33×1.5-6g	20.4

YXF-12T1××			
Interface code	Outline drawing	F	L
11		M24×1.5-6g	23

12		——	30.7

YXF-12Z1××			
Interface code	Outline drawing	F	L
11		——	——

YXN series tri-bayonet coupling fluid cooling connectors

Brief introduction

YXN series of fluid cooling connectors are widely used in a variety of liquid cooling systems, mainly used for connecting large flow liquid cooling equipment.

- bayonet locking device to achieve quick coupling.
- automatically sealed to prevent leakage during disconnection
- do not cause leakage of the internal liquid during normal mating.
- Optimize internal valve design and realize the maximum flow.
- shell material can choose aluminum alloy, stainless steel
- aluminum alloy shell with hard anodized , with strong abrasion resistance and corrosion resistance.
- Execute the enterprise standard: Q/21EJ1802。

Main technical performances

——Shell：high strength aluminum alloy，stainless steel。

——plating：Hard anodization and passivation

——grommet：High strength fluorine and silicone rubber、fluorine rubber、EPDM rubber

——Shock：half sinusoid，peak acceleration 30g，pulse duration 11ms，3 times for each axis

——Random vibration：15~2000Hz，power spectral density 0.04g2/Hz，duration 1h

——durability：500 cycles

Designation

Series	YX	N	-25	T	01	R	Al	JE
Coupling	N－tri-bayonet coupling							
Flow Specification	25-applicable tube diameter25mm; 50-applicable tube diameter50mm; 80-applicable tube diameter80mm;							
Connector type	T－plug Z－receptacle							
Interface code	01… （These specifications have different interface flow code options, see specific dimensions）							
Color identification[2)]	R－Red B－Blue G－Green Y－Yellow							

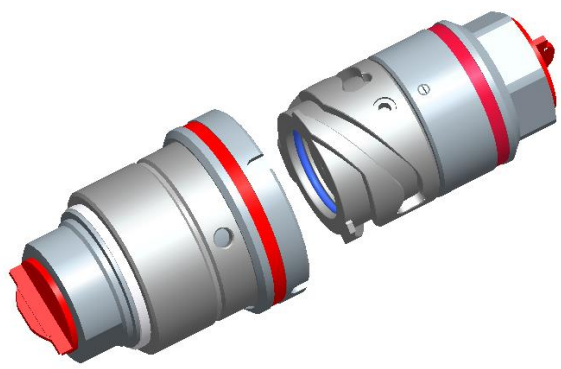
Basic material	Al—aluminum alloy SS—stainless steel
Fit liquid	JE—braking fluid，hot water，steamed water，silicone oil，purified water（operating temperature-55~+125℃） JM—PAO，fuel oil，aviation fuel oil，nitrogen，purified water，antifreeze solution，silicone oil（operating temperature-55~+177℃）

Designation example:

YXN-25Z01RAlJE：tri-bayonet coupling fluid cooling connectors，applicable tube diameter25mm，receptacle，Interface code 01，red，basic material aluminum alloy，choose JE liquid medium and operation temperature。

YXN-50T03YSSJM：tri-bayonet coupling fluid cooling connectors，applicable tube diameter50mm，plug，Interface code 03，yellow，basic material stainless steel，choose JM liquid medium and operation temperature。

[YXN Series fluid cooling connectors application performances]

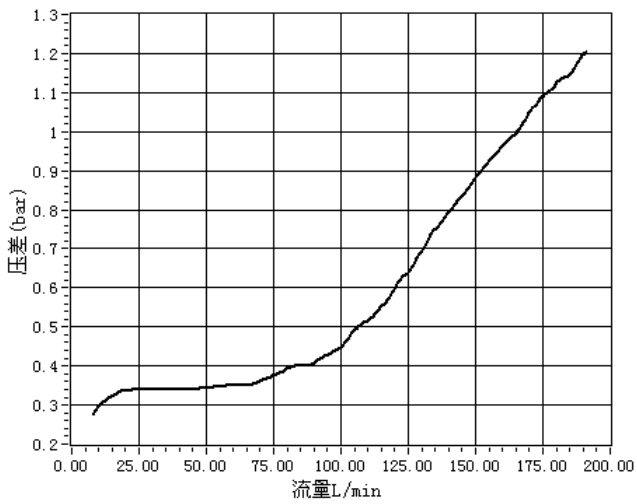
YXN	YXN-25
	
YXN-50	YXN-80

Specification	YXN-25	
Main material	stainless steel	aluminum alloy
applicable tube diameter（mm）	Φ25	Φ25
Flow coefficient Kv value（m^3/h）	12	12
Sealing system	bidirectional	bidirectional
MWP（bar）	25	14
The allowable maximum pressure during inserting（bar）	3	3
The maximum leakage during inserting（cm^3）	0.4	0.4

Specification	YXN-50	
Main material	stainless steel	aluminum alloy
applicable tube diameter（mm）	Φ50	Φ50
Flow coefficient Kv value（m^3/h）	64.26	64.26
Sealing system	bidirectional	bidirectional
MWP（bar）	25	10
The allowable maximum pressure during inserting（bar）	3	3
The maximum leakage during inserting（cm^3）	1.0	1.0

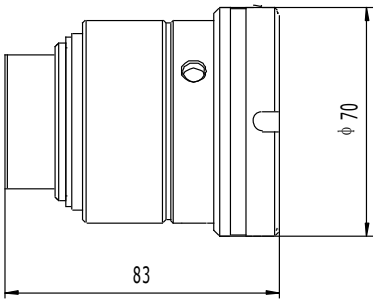
Specification	YXN-80	
Main material	stainless steel	aluminum alloy
applicable tube diameter（mm）	Φ80	Φ80
Flow coefficient Kv value（m^3/h）	86.54	86.54
Sealing system	bidirectional	bidirectional
MWP（bar）	16	7
The allowable maximum pressure during inserting（bar）	3	3
The maximum leakage during inserting（cm^3）	1.3	1.3

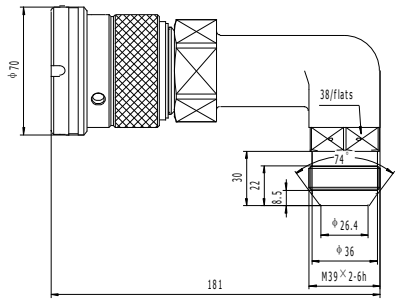
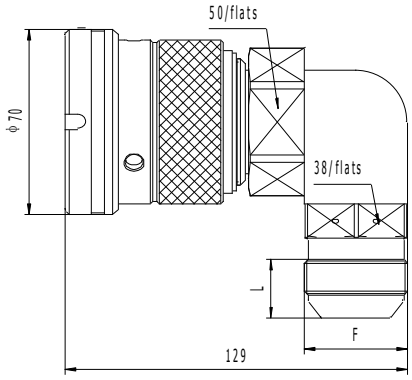
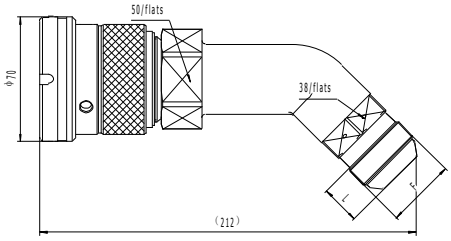
YXN-25

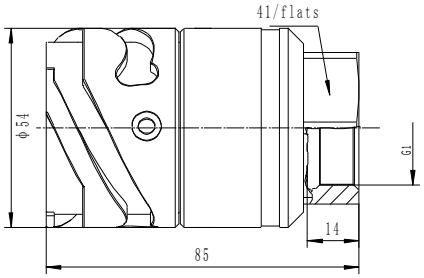


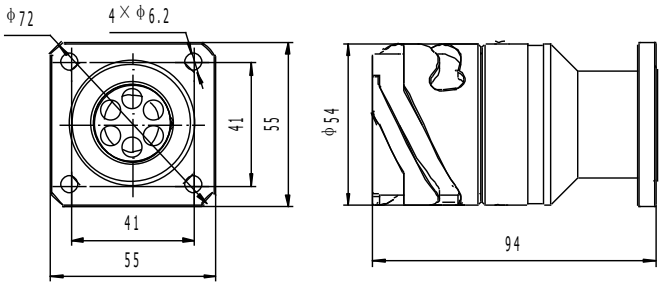
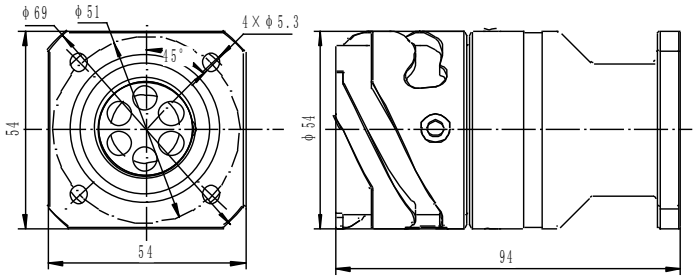
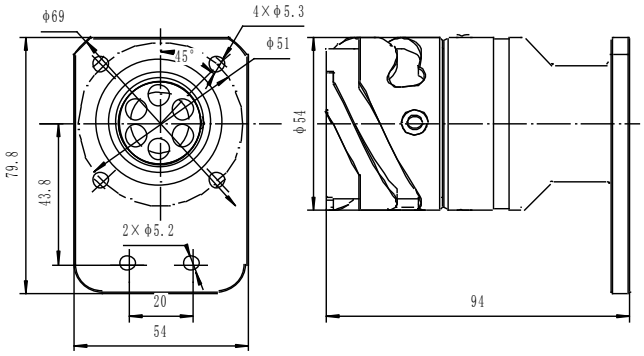
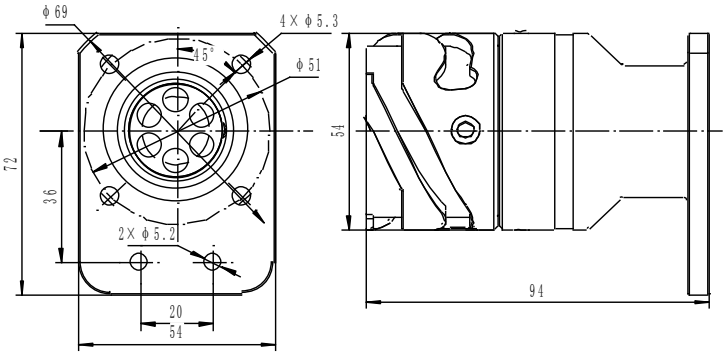
*** Flow curve test conditions——temperature：20℃；liquid medium：purified water；density：1000kg/m3**

YXN series fluid cooling connectors outline dimensions

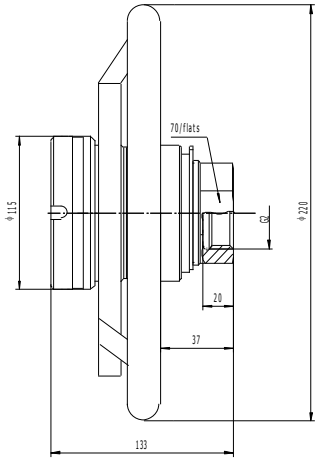
YXN-25TXX			
Interface code	Outline drawing	F	L
01		——	——

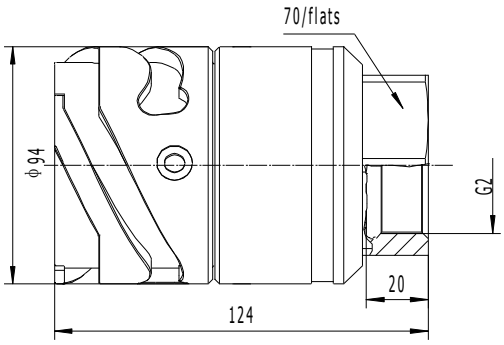
02		——	——
03		M39×2	22
04		M39×2	22

YXN-25Z××			
Interface code	Outline drawing	F	L
01		——	——

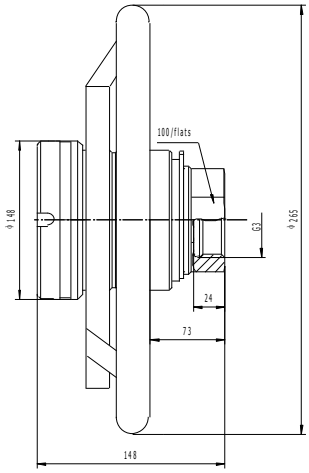
02		——	——
03		——	——
04		——	——
05		——	——

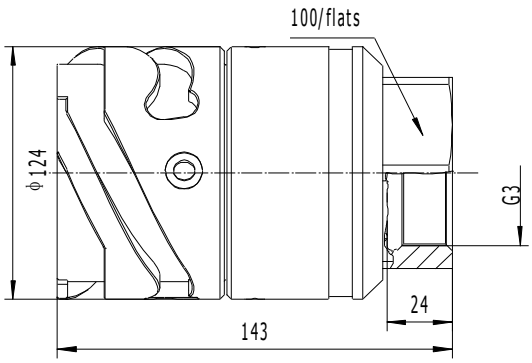
YXN-50T××			
Interface code	Outline drawing	F	L

01		——	——

YXN-50Z××			
Interface code	Outline drawing	F	L
01		——	——

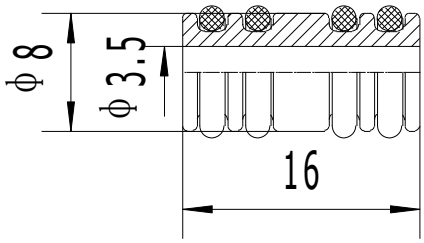
YXN-80T××			
Interface code	Outline drawing	F	L

01		——	——

YXN-80Z××			
Interface code	Outline drawing	F	L
01		——	——

YXG tube splice outline dimensions

YXG-3.5TXX			
Interface code	Outline drawing	F	L

01		——	——

YRC series petal-locking fluid cooling connector

Brief introduction

YRC series of fluid cooling connectors are widely used in various liquid cooling systems, mainly used for connecting the coolant inlet and outlet of the ground and shipboard chassis, power supply , T / R, etc.

- petal-locking for quick mating and unmating.
- automatically sealed to prevent leakage during disconnection
- do not cause leakage of the internal liquid during normal mating
- Optimize internal valve design and realize the maximum flow.
- Shell material can choose stainless steel

- small size, easy connection and separation
- Easy to install, suitable for different environment and installation needs
- Execute the enterprise standard: Q/21EJ1595。

Main technical performances

——Shell：stainless steel。

——plating：passivation

——grommet：High strength fluorine and silicone rubber、fluorine rubber、EPDM rubber

——Shock：half sinusoid，peak acceleration 30g，pulse duration 40ms，5 times for each axis

——Random vibration：15~2000Hz，power spectral density 0.04g2/Hz，duration 0.5h

——durability：500 cycles

Designation

Series	YR	C	-4	T	01	SS	JE
Coupling	C—petal-locking						
Flow Specification	4－equivalent diameter of 7 mm2 Fluid effective cross-sectional area 6－equivalent diameter of 20.7 mm2 Fluid effective cross-sectional area 8－equivalent diameter of 41 mm2 Fluid effective cross-sectional area						
Connector type	T－plug Z－receptacle						
Interface code	01~ （These specifications have different interface flow code options, see specific dimensions）						

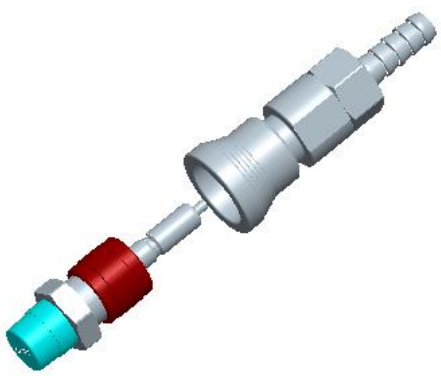
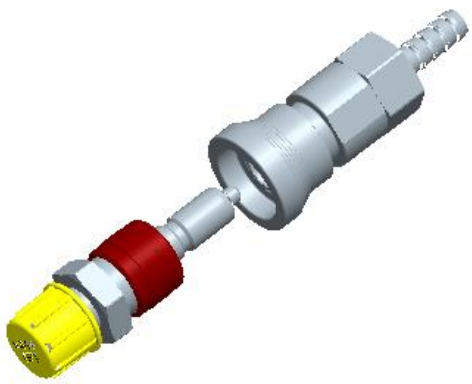
Basic material	SS－stainless steel
Fit liquid	JE－purified water, antifreeze solution、refrigerant（operating temperature-50~+90℃） JM－purified water，antifreeze solution，silicone oil（operating temperature-50~+90℃）

Designation example：

YRC-4Z01SSJE：petal-locking fluid cooling connector ，Φ4equivalent diameter（sectional area of 12.56mm^2），receptacle，Interface code 01，basic material stainless steel，choose JE liquid medium and operation temperature。

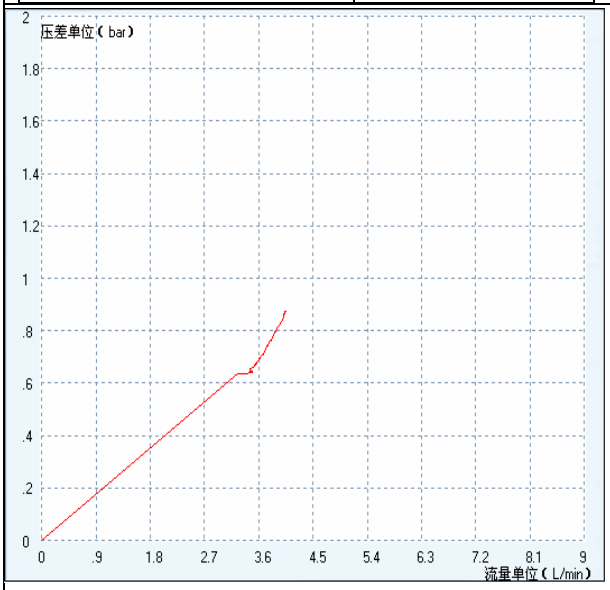
YRC-6T03SSJM：petal-locking fluid cooling connector ，Φ6equivalent diameter（sectional area of 28.26mm^2），plug，Interface code 03，basic material stainless steel，choose JM liquid medium and operation temperature。

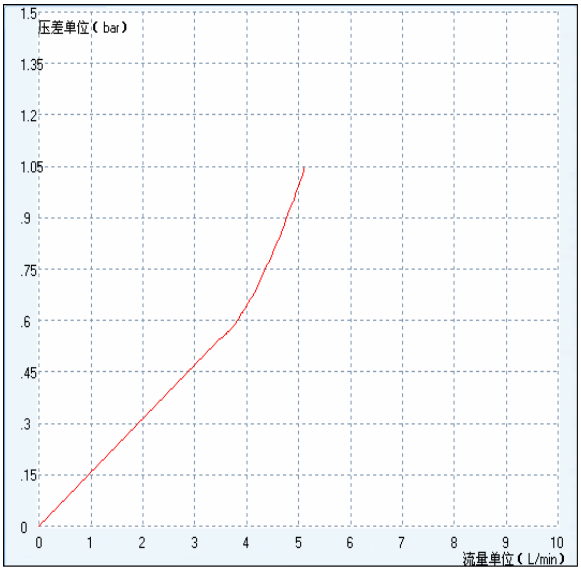
[YRC Series fluid cooling connectors application performances]

YRC-4	YRC-6
	

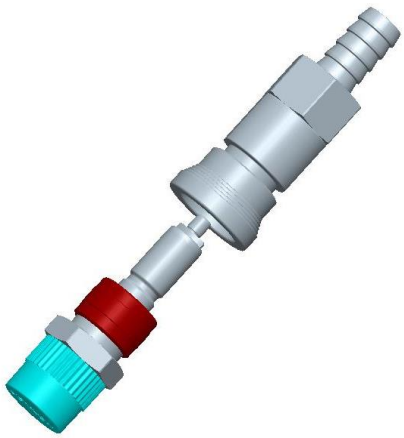
Specification	YRC-4
Main material	stainless steel
Equivalent fluid size（mm）	Φ4
Equivalent fluid section（mm2）	7
Kv value（m3/h）	0.20
Sealing system	bidirectional
MWP（bar）	15
The maximum working Flow（L/min）	2.1
The maximum leakage during inserting（cm3）	0.3
Weight of receptacle and plug（g）	95max

Specification	YRC-6
Main material	stainless steel
Equivalent fluid size（mm）	Φ6
Equivalent fluid section（mm2）	20.7
Kv value（m3/h）	0.33
Sealing system	bidirectional
MWP（bar）	15
The maximum working Flow（L/min）	6.21
The maximum leakage during inserting（cm3）	1
Weight of receptacle and plug（g）	147max



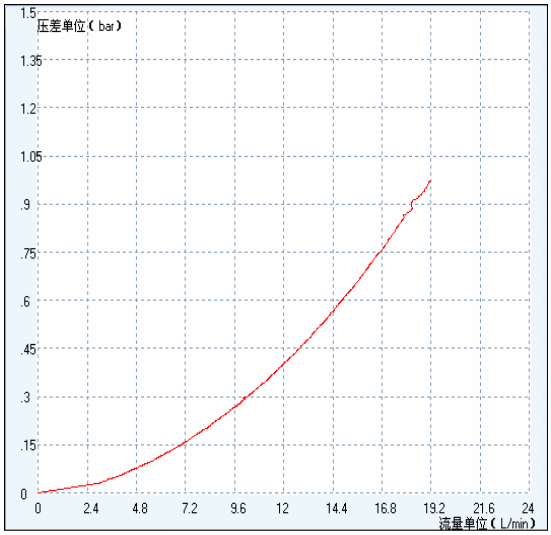


YRC-8



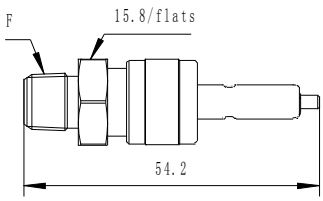
Specification	YRC-8
Main material	stainless steel
Equivalent fluid size（mm）	Φ8
Equivalent fluid section（mm2）	41
Kv value（m3/h）	1.11
Sealing system	bidirectional
MWP（bar）	15
The maximum working Flow（L/min）	12.3
The allowable maximum pressure during inserting（bar）	3
The maximum leakage during inserting（cm3）	3

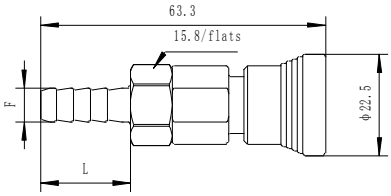
Weight of receptacle and plug（g）	267max

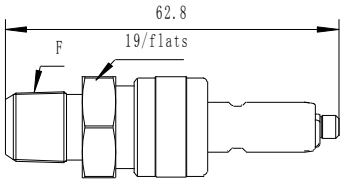


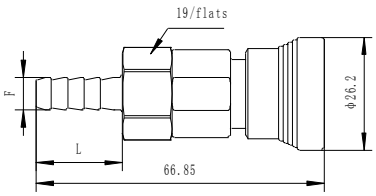
*** Flow curve test conditions——temperature：20℃；liquid medium：purified water；density：1000kg/m3**

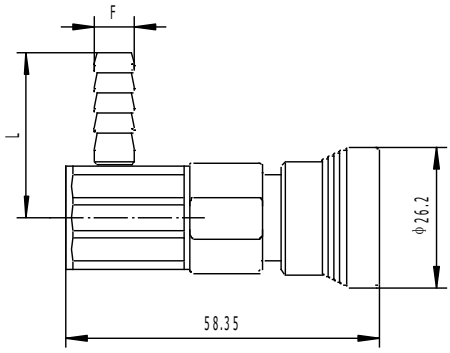
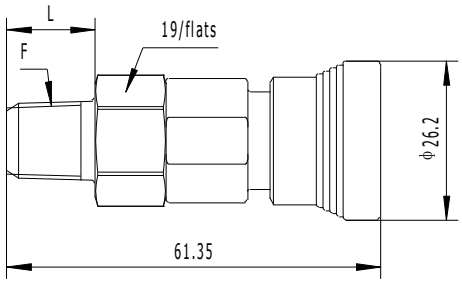
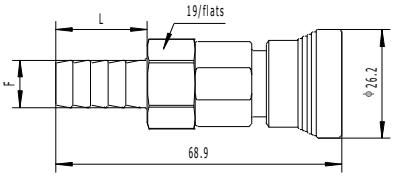
YRC series fluid cooling connectors outline dimensions

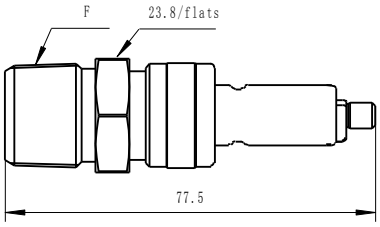
YRC-4T××		
Interface code	Outline drawing	F
01		NPT1/8

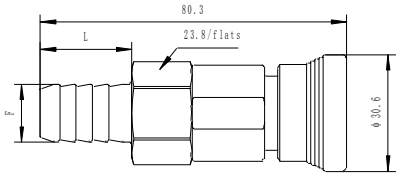
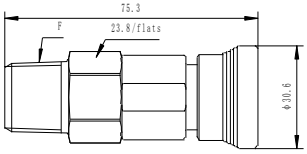
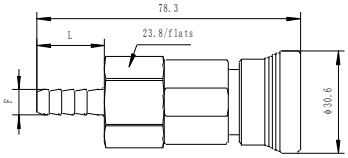
YRC-4Z××			
Interface code	Outline drawing	F	L
01		7.62(1/4in)	20

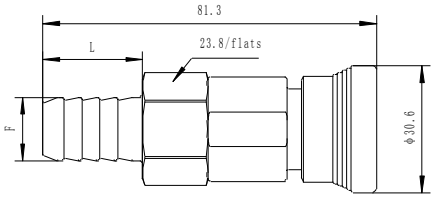
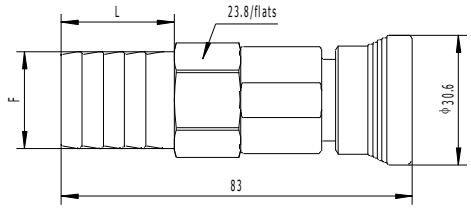
YRC-6T××		
Interface code	Outline drawing	F
01		NPT1/4

YRC-6Z××			
Interface code	Outline drawing	F	L
01		7.62(1/4in)	20

02		7.6(1/4in)	30.5
03		NPT1/4	14.5
04		11.4(3/8in)	22

YRC-8T××		
Interface code	Outline drawing	F
01		NPT1/2

YRC-8Z××			
Interface code	Outline drawing	F	L
01		15.25(1/2in)	24
02		NPT1/2	19
03		7.6(1/4in)	20

04		14	25
05		22.9(3/4in)	26.7

The selection of fluid cooling connectors

The selection of cooling liquid connectors relate to thermal efficiency of the liquid cooling system, reliability and maintainability. The choice of liquid cooling connectors should take the following contents in consideration：

- Connector size：According to power consumption of case, the highest endurable temperature, pressure of liquid, the specific heat of liquid and heat exchange efficiency inner the case, the size of liquid can be calculated. The selected size of contact should not be less than the calculated value.
- Working pressure：In general, the hydraulic pressure of liquid equipment is 2.5bar and can not be higher than 10bar（1MPa），this is applicable for all connectors above
- Working Temperature：Connector P/N is dependent on liquid and working temperature
- Mating and locking：Different locking methods can be chosen according to working environment of equipment and maintenance convenience. Bayonet liquid cooling connector is recommended to be applied to aerospace case panel. Blind mating liquid cooling connectors are used in modules in the case.
- Termination：Termination is dependent on the equipment position.；Square flange receptacle is recommended to be applied to chassis panel and plug can be chosen according to specific needs；Liquid cooling connectors on the module are threaded connection
- Working Medium：Choosing different cooling material and different types of connectors according to different equipment. 65# antifreeze solution（GJB6100） is recommended to be applied in Aviation liquid cooling case to cool
- Color identification：According to customer’s need, connectors with different color could be used for transporting different types of liquid. Liquid inlet(lower temperature liquid) on the box is recommended

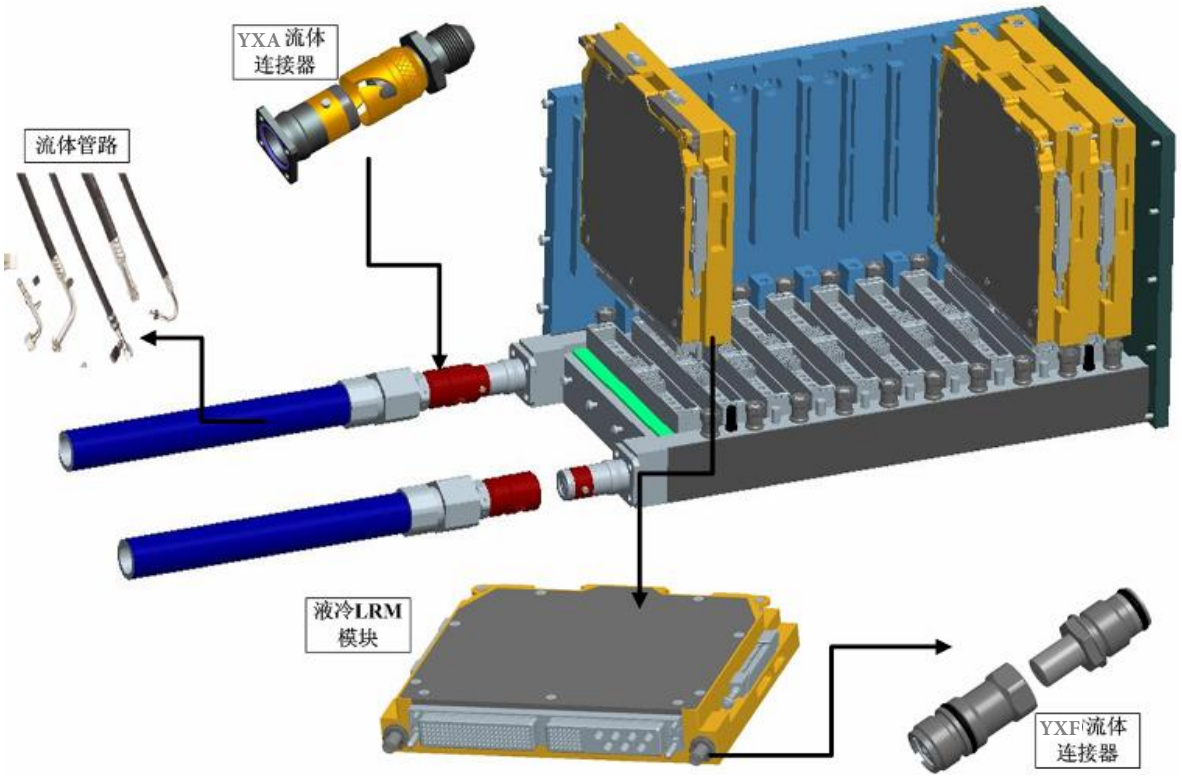
to install yellow connectors，liquid outlet(higher temperature liquid) on the box is recommended to install red connectors

To select external pipeline assembly

- Size：The size of liquid cooling pipe assembly should be same with the size of connectors, or bigger。
- Working temperature：The temperature range of liquid cooling piping assemblies should be greater than the temperature range of equipment。
- Working Pressure：Pressure of liquid cooling piping assemblies should be more than 50% of the pressure equipment using the liquid, 1.5MPa is recommended on aviation liquid cooling case liquid cooling pipe
- Termination methods: Liquid cooling piping assemblies and termination interface methods of liquid cooling connectors should match. Interface of pipeline is expansion joint mouth type and is in accordance with GB5642.2-85，flaring angle is 74±0.5°，threads are M22×1.5（YXA-8），M16×1（YXA-5） and M10×1（YXA-3），or it is in accordance with JIC 37°。
- Applicable medium：Liquid cooling pipe assembly is required to match the cooling liquid of case

The application of liquid cooling connectors

Fluid cooling connectors with a one-way seal function，During normal mating, there is no liquid leakage in the pipeline and gas or liquid outside the pipeline can not enter inner system of pipeline. It is mainly used for the connection area of liquid cooling liquid cooling piping and external chassis internal pipeline as well as the connection area of external pipes. See application examples below：



Fluid cooling connectors will be used in the military communication system，Navy sonar detection equipment，Radar monitoring equipment，real-time control equipment, measurement &control platform, railway signal monitoring system，space flight and aviation and so on. In order to ensure reliability and maintainability, quick connection liquid cooling connectors are used.