

# Instrument Thread Fittings

High Technology Valve & Fitting Series



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■ How To Order

**IHN - 8 NR - SS      IHRN - 8 - 6N - B**

I   II   III   IV   V      I   II   III   IV   V

I : INSTRUMENT THREAD FITTINGS      II : FITTING TYPE      III : PIPE THREAD SIZE  
IV : PIPE THREAD TYPE      V : MATERIAL

■ Pressure Ratings

Size Designator	NPT Size	316 Stainless Steel				Brass				Carbon Steel			
		Male		Female		Male		Female		Male		Female	
		psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar
1	1/16	11000	757	6700	461	5500	378	3300	227	11000	757	6700	461
2	1/8	10000	689	6500	447	5000	344	3200	220	10000	689	6500	447
4	1/4	8000	551	6600	454	4000	275	3300	227	8000	551	6600	454
6	3/8	7800	537	5300	365	3900	268	2600	179	7800	537	5300	365
8	1/2	7700	530	4900	337	3800	261	2400	165	7700	530	4900	337
12	3/4	7300	502	4600	316	3600	248	2300	158	7300	502	4600	316
16	1	5300	365	4400	303	2600	179	2200	151	5300	365	4400	303
20	1 1/4	6000	413	5000	344	3000	206	2500	172	6000	413	5000	344
24	1 1/2	5000	344	4600	316	2500	172	2300	158	5000	344	4600	316
32	2	3900	268	3900	268	1900	130	1900	130	3900	268	3900	268

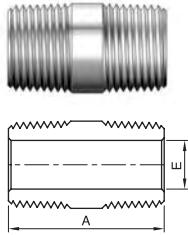
- Pressure ratings are based on ASME Code for Pressure Piping B31.3, Process Piping with allowable stress 20,000psi for SS316, 10,000psi/Brass, and 20,000psi/ Carbon steel.
- To determine pressure ratings in accordance with B31.1, Power Piping:
  - 316 Stainless steel material : multiply by 0.94, Carbon steel material : multiply by 0.75, Brass material ratings remain the same
- To determine kPa, multiply by 6.89

■ Temperature Rating

Material	Identify	Max. Temperature °F(°C)
316 Stainless Steel	SS	1000(537)
Brass	B	400(204)
Carbon Steel	C	375(190)

■ Thread Specifications

Thread Type	Identify	Specification
NPT	N	ASME B1.20.1, SAE AS71051
ISO/BSP (Parallel)	G	ISO 228, JIS B 0202
ISO/BSP (Tapered)	R	ISO 7/1, JIS B 0203

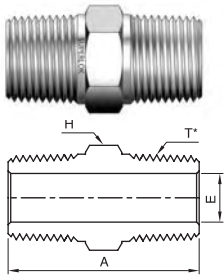


■ Male NPT Threads

Part Number	NPT Pipe Size	Dimension(mm)	
		A	E
ICN - 2N	1/8	19.1	4.8
ICN - 4N	1/4	28.4	7.1
ICN - 6N	3/8	28.4	9.6
ICN - 8N	1/2	38.1	11.9
ICN - 12N	3/4	38.1	15.7
ICN - 16N	1	47.8	22.4

※ ISO Tapered Threads are available upon request.

**IHN**  
Hex Nipple



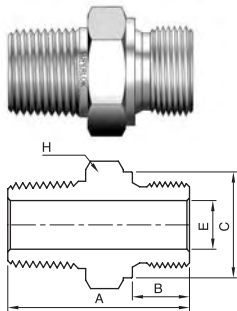
■ Male NPT Threads

Part Number	NPT Pipe Size	Dimension(mm)			T* ISO/BSP Pipe Size (ISO 7/1)
		A	E	H	
IHN - 2N	1/8	25.6	4.8	11.1	1/8
IHN - 4N	1/4	35.6	7.1	14.2	1/4
IHN - 6N	3/8	36.3	9.6	17.4	3/8
IHN - 8N	1/2	46.7	11.9	22.2	1/2
IHN - 12N	3/4	46.7	15.7	26.9	3/4
IHN - 16N	1	58.9	22.4	34.9	1

※ NOTE : In case of ISO/BSP(ISO 7/1) tapered pipe thread of T\*, The part number should be "NR" instead of "N"  
Example : IHN-8NR (ISO TATER THREAD)

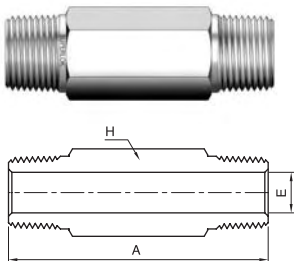
※ ISO Tapered Threads are available upon request.

■ Male NPT to Male ISO Parallel Pipe Threads



Part Number	NPT Pipe Size	ISO/BSP Pipe Size (ISO 228)	Dimension(mm)				
			A	B	C	E	H
IHN - 2NG	1/8	1/8	27.7	7.1	13.7	4.1	14.2
IHN - 4NG	1/4	1/4	36.8	11.2	18.0	5.8	19.1
IHN - 6NG	3/8	3/8	37.6	11.2	21.6	7.9	22.2
IHN - 8NG	1/2	1/2	44.4	14.2	25.9	11.9	26.9
IHN - 12NG	3/4	3/4	49.0	15.7	32.0	15.7	33.3
IHN - 16NG	1	1	56.6	18.3	38.9	19.8	41.2

**IHLN**  
Hex Long Nipple



■ Male NPT Threads

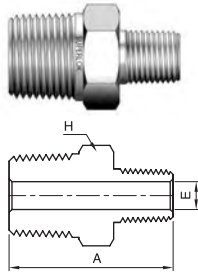
Part Number	NPT Pipe Size	Dimension(mm)		
		A	E	H
IHLN - 2N	1/8	*	4.8	11.1
IHLN - 4N	1/4	*	7.1	14.2
IHLN - 6N	3/8	*	9.6	17.4
IHLN - 8N	1/2	*	11.9	22.2
IHLN - 12N	3/4	*	15.7	26.9
IHLN - 16N	1	*	22.8	34.9

※ NOTE : The length of Nipple "A" is defined by user  
Part Number Example : IHLN - 8N - 100L(length "A" : 100mm)

※ ISO Tapered Threads are available upon request.



## IHRN Hex Reducing Nipple

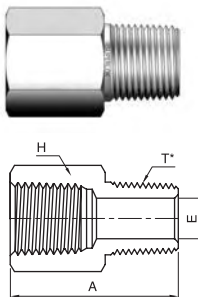


### ■ Male NPT Threads

Part Number	NPT Pipe Size	Reduced Pipe Size	Dimension(mm)		
			A	E	H
IHRN 2 - 1N	1/8	1/16	25.6	3.0	11.1
IHRN 4 - 2N	1/4	1/8	31.0	4.8	14.2
IHRN 6 - 2N	3/8	1/8	31.8	4.8	17.4
IHRN 6 - 4N	3/8	1/4	36.3	7.1	17.4
IHRN 8 - 2N	1/2	1/8	37.3	4.8	22.2
IHRN 8 - 4N	1/2	1/4	41.9	7.1	22.2
IHRN 8 - 6N	1/2	3/8	41.9	9.6	22.2
IHRN12 - 4N	3/4	1/4	41.9	7.1	26.9
IHRN12 - 8N	3/4	1/2	46.7	11.9	26.9
IHRN16 - 4N	1	1/4	49.3	7.1	34.9
IHRN16 - 8N	1	1/2	54.1	11.9	34.9
IHRN16 -12N	1	3/4	54.1	15.7	34.9

※ISO Tapered Threads are available upon request.

## IA Adapter



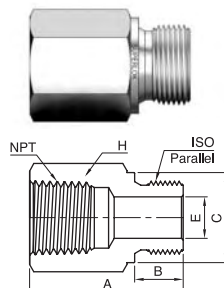
### ■ Female to Male NPT Threads

Part Number	NPT Pipe Size	Dimension(mm)			T* ISO/BSP Pipe Size (ISO 7/1)
		A	E	H	
IA - 2N	1/8	27.9	4.8	14.2	1/8
IA - 4N	1/4	35.6	7.1	19.1	1/4
IA - 6N	3/8	38.4	9.6	22.2	3/8
IA - 8N	1/2	49.3	11.9	26.9	1/2
IA - 12N	3/4	51.3	15.7	33.3	3/4
IA - 16N	1	57.9	22.4	41.2	1

※NOTE : In case of ISO/BSP(ISO 7/1) tapered pipe thread of T\* The part number should be "NR" instead of "N"  
Example : IA-8NR (ISO TATER THREAD)

※ISO Tapered Threads are available upon request.

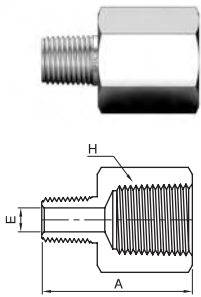
### ■ Female NPT to Male ISO Parallel Pipe Threads



Part Number	NPT Pipe Size	ISO/BSP Pipe Size (ISO 228)	Dimension(mm)				
			A	B	C	E	H
IA - 2NG	1/8	1/8	25.1	7.1	13.7	4.1	14.2
IA - 4NG	1/4	1/4	33.5	11.2	18.0	5.8	19.1
IA - 6NG	3/8	3/8	35.8	11.2	21.6	7.9	22.2
IA - 8NG	1/2	1/2	44.2	14.2	25.9	11.9	26.9
IA - 12NG	3/4	3/4	48.0	15.7	32.0	15.7	33.3
IA - 16NG	1	1	53.3	18.3	38.9	19.8	41.2

## IRA Reducing Adapter

**SUPERLOK®**  
Instrument Thread Fittings

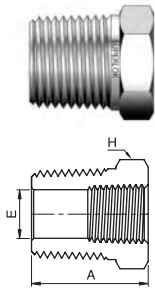


### Female to Male NPT Threads

Part Number	Male Pipe Size	Female Pipe Size	Dimension(mm)		
			A	E	H
IRA 2 - 4N	1/8	1/4	32.0	4.8	19.1
IRA 2 - 6N	1/8	3/8	33.8	4.8	22.2
IRA 4 - 6N	1/4	3/8	38.1	7.1	22.2
IRA 2 - 8N	1/8	1/2	40.1	4.8	26.9
IRA 4 - 8N	1/4	1/2	44.7	7.1	26.9
IRA 6 - 8N	3/8	1/2	44.4	9.6	26.9
IRA 4 -12N	1/4	3/4	47.0	7.1	33.3
IRA 6 -12N	3/8	3/4	46.2	9.6	33.3
IRA 8 -12N	1/2	3/4	51.3	11.9	33.3
IRA 4 -16N	1/4	1	49.8	7.1	41.2
IRA 8 -16N	1/2	1	54.9	11.9	41.2
IRA12 -16N	3/4	1	55.1	15.7	41.2

※ISO Tapered Threads are available upon request.

## IRHB Reducing Hex Bushing

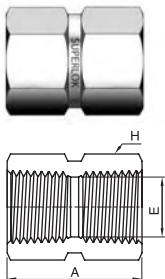


### Male to Female NPT Threads

Part Number	Male Pipe Size	Female Pipe Size	Dimension(mm)		
			A	E	H
IRHB 4 - 2N	1/4	1/8	26.9	7.1	14.2
IRHB 6 - 2N	3/8	1/8	21.8	8.6	17.4
IRHB 6 - 4N	3/8	1/4	30.2	9.6	19.1
IRHB 8 - 2N	1/2	1/8	27.4	8.6	22.2
IRHB 8 - 4N	1/2	1/4	27.4	11.4	22.2
IRHB 8 - 6N	1/2	3/8	35.8	11.9	22.2
IRHB12 - 4N	3/4	1/4	27.4	11.4	26.9
IRHB12 - 6N	3/4	3/8	27.4	15.0	26.9
IRHB12 - 8N	3/4	1/2	41.4	15.7	26.9
IRHB16 - 4N	1	1/4	34.8	11.4	34.9
IRHB16 - 6N	1	3/8	34.8	15.0	34.9
IRHB16 - 8N	1	1/2	34.8	18.5	34.9
IRHB16 -12N	1	3/4	47.0	22.4	34.9

※ISO Tapered Threads are available upon request.

## IHC Hex Coupling



### Female NPT Threads

Part Number	Pipe Size	Dimension(mm)		
		A	E	H
IHC - 2N	1/8	20.6	8.6	14.2
IHC - 4N	1/4	30.2	11.4	19.1
IHC - 6N	3/8	33.3	15.0	22.2
IHC - 8N	1/2	39.6	18.5	26.9
IHC - 12N	3/4	41.1	23.9	33.3
IHC - 16N	1	50.8	29.7	41.2

※ISO Tapered Threads are available upon request.



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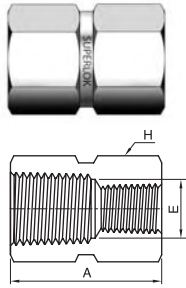
[www.mako-products.net](http://www.mako-products.net)

408 Wimbledon Rd., Edmond, OK 73003



All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

**IHRC**  
Hex Reducing Coupling

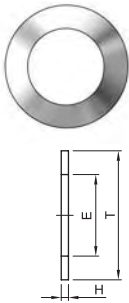


■ Female NPT Threads

Part Number	Pipe Size	Reduced Pipe Size	Dimension(mm)		
			A	E	H
IHRC 4 - 2N	1/4	1/8	31.0	8.6	19.1
IHRC 6 - 4N	3/8	1/4	35.1	11.4	22.2
IHRC 8 - 2N	1/2	1/8	39.6	8.6	26.9
IHRC 8 - 4N	1/2	1/4	44.4	11.4	26.9
IHRC 8 - 6N	1/2	3/8	45.2	15.0	26.9
IHRC12 - 4N	3/4	1/4	46.0	11.4	33.3
IHRC12 - 8N	3/4	1/2	52.3	18.5	33.3
IHRC16 - 8N	1	1/2	55.6	18.5	41.2
IHRC16 - 12N	1	3/4	57.2	23.9	41.2

※ISO Tapered Threads are available upon request.

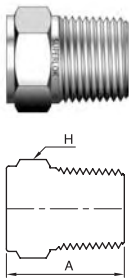
**IPG**  
ISO Parallel Gasket



■ ISO Parallel Copper Gaskets

Part Number	Pipe Size	Dimension(mm)		
		E	H	T
IPG - 2	1/8	10.2	1.0	16.0
IPG - 4	1/4	13.4	1.5	19.5
IPG - 6	3/8	17.0	1.5	24.0
IPG - 8	1/2	21.2	1.5	29.0
IPG - 12	3/4	27.2	2.0	34.5
IPG - 16	1	34.0	2.0	42.0

**IPP**  
Pipe Plug

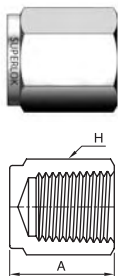


■ Female NPT Threads

Part Number	Pipe Size	Dimension(mm)	
		A	H
IPP - 2N	1/8	19.1	11.1
IPP - 4N	1/4	24.4	14.2
IPP - 6N	3/8	25.1	17.4
IPP - 8N	1/2	30.7	22.2
IPP - 12N	3/4	30.7	26.9
IPP - 16N	1	38.1	34.9

※ISO Tapered Threads are available upon request.

**IPC**  
Pipe Cap



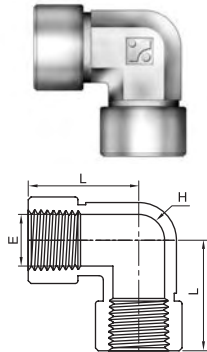
■ Female NPT Threads

Part Number	Pipe Size	Dimension(mm)	
		A	H
IPC - 2N	1/8	19.1	14.2
IPC - 4N	1/4	23.1	19.1
IPC - 6N	3/8	26.2	22.2
IPC - 8N	1/2	34.0	26.9
IPC - 12N	3/4	36.6	33.3
IPC - 16N	1	41.1	41.2

※ISO Tapered Threads are available upon request.

**IFE**  
Female Elbow

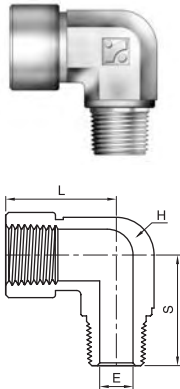
■ Female NPT Threads



Part Number	Pipe Size	Dimension(mm)		
		E	L	H
IFE - 2N	1/8	8.6	24.0	12.7
IFE - 4N	1/4	11.4	29.0	17.5
IFE - 6N	3/8	15.0	34.5	20.6
IFE - 8N	1/2	18.5	37.0	25.4
IFE - 12N	3/4	23.9	46.5	31.8
IFE - 16N	1	29.7	48.8	42.9

※ ISO Tapered Threads are available upon request.

**ISE**  
Street Elbow

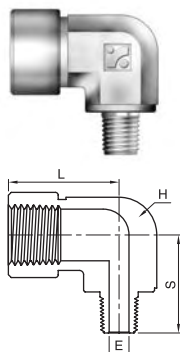


■ Female to Male NPT Threads

Part Number	Pipe Size	Dimension(mm)			
		E	L	S	H
ISE - 2N	1/8	4.8	24.1	19.6	12.7
ISE - 4N	1/4	7.1	29.0	26.5	17.5
ISE - 6N	3/8	9.6	34.5	28.2	20.6
ISE - 8N	1/2	11.9	37.0	35.3	25.4
ISE - 12N	3/4	15.7	46.5	39.6	31.8
ISE - 16N	1	22.4	48.8	49.2	42.9

※ ISO Tapered Threads are available upon request.

**IRSE**  
Reducing Street Elbow



■ Female to Male NPT Threads

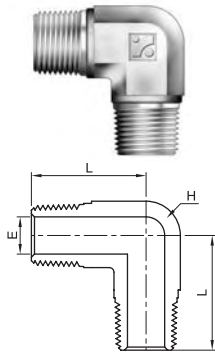
Part Number	Female Pipe Size	Male Pipe Size	Dimension(mm)			
			E	L	S	H
IRSE 2 - 1N	1/8	1/16	3.0	26.4	22.1	12.7
IRSE 4 - 2N	1/4	1/8	4.8	29.0	22.4	17.5
IRSE 6 - 4N	3/8	1/4	7.1	34.5	28.2	20.6
IRSE 8 - 4N	1/2	1/4	7.1	37.0	30.5	25.4
IRSE 8 - 6N	1/2	3/8	9.6	37.0	30.5	25.4
IRSE 12 - 8N	3/4	1/2	11.9	46.5	39.6	31.8
IRSE 16 - 8N	1	1/2	11.9	48.8	44.5	42.9

※ ISO Tapered Threads are available upon request.



**IME**  
Male Elbow

■ Male NPT Threads

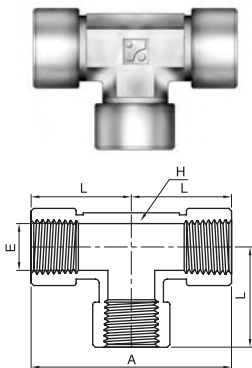


Part Number	Pipe Size	Dimension(mm)		
		E	L	H
IME - 2N	1/8	4.8	19.1	12.7
IME - 4N	1/4	7.1	24.5	12.7
IME - 6N	3/8	9.6	26.9	17.5
IME - 8N	1/2	11.9	33.2	20.6
IME - 12N	3/4	15.7	35.3	25.4
IME - 16N	1	22.4	44.5	31.8

※ISO Tapered Threads are available upon request.

**IFT**  
Female Tee

■ Female NPT Threads

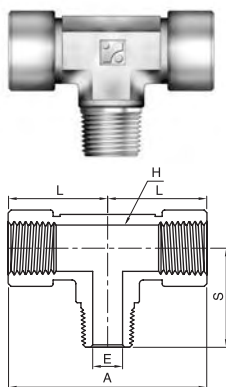


Part Number	Pipe Size	Dimension(mm)			
		A	E	L	H
IFT - 2N	1/8	48.0	8.6	24.0	12.7
IFT - 4N	1/4	58.0	11.4	29.0	17.5
IFT - 6N	3/8	69.0	15.0	34.5	20.6
IFT - 8N	1/2	74.0	18.5	37.0	25.4
IFT - 12N	3/4	93.0	23.9	46.5	31.8
IFT - 16N	1	97.0	29.7	48.5	42.9

※ISO Tapered Threads are available upon request.

**IBT**  
Branch Tee

■ Male to Female NPT Threads

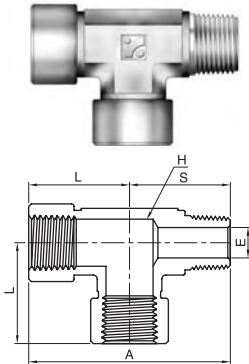


Part Number	Pipe Size	Dimension(mm)				
		A	E	L	S	H
IBT - 2N	1/8	48.0	4.8	24.0	19.6	12.7
IBT - 4N	1/4	58.0	7.1	29.0	26.5	17.5
IBT - 6N	3/8	69.0	9.6	34.5	28.2	20.6
IBT - 8N	1/2	74.0	11.9	37.0	35.3	25.4
IBT - 12N	3/4	93.0	15.7	46.5	39.6	31.8
IBT - 16N	1	97.0	22.4	48.5	49.2	42.9

※ISO Tapered Threads are available upon request.

**IRT**  
Run Tee

■ Male to Female NPT Threads

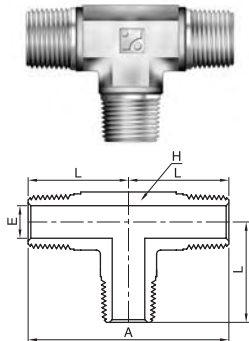


Part Number	Pipe Size	Dimension(mm)				
		A	E	L	S	H
IRT - 2N	1/8	43.6	4.8	24.0	19.6	12.7
IRT - 4N	1/4	56.2	7.1	29.0	26.5	17.5
IRT - 6N	3/8	62.7	9.6	34.5	28.2	20.6
IRT - 8N	1/2	72.3	11.9	37.0	35.3	25.4
IRT - 12N	3/4	86.1	15.7	46.5	39.6	31.8
IRT - 16N	1	97.7	22.4	48.5	49.2	42.9

※ISO Tapered Threads are available upon request.

**IMT**  
Male Tee

■ Male NPT Threads

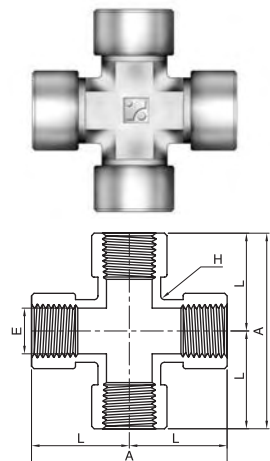


Part Number	Pipe Size	Dimension(mm)			
		A	E	L	H
IMT - 2N	1/8	38.2	4.8	19.1	12.7
IMT - 4N	1/4	49.0	7.1	24.5	12.7
IMT - 6N	3/8	53.8	9.6	26.9	17.5
IMT - 8N	1/2	66.4	11.9	33.2	20.6
IMT - 12N	3/4	70.6	15.7	35.3	25.4
IMT - 16N	1	89.0	22.4	44.5	31.8

※ISO Tapered Threads are available upon request.

**IFC**  
Female Cross

■ Female NPT Threads



Part Number	Pipe Size	Dimension(mm)			
		A	E	L	H
IFC - 2N	1/8	48.0	8.6	24.0	12.7
IFC - 4N	1/4	58.0	11.4	29.0	17.5
IFC - 6N	3/8	69.0	15.0	34.5	20.6
IFC - 8N	1/2	74.0	18.5	37.0	25.4
IFC - 12N	3/4	93.0	23.9	46.5	31.8
IFC - 16N	1	97.0	29.7	48.5	42.9

※ISO Tapered Threads are available upon request.

## **SUPERLOK®**

### Valve Series

- Key Operation Ball Valves
- Key Operation Needle Valves
- Ball Valves
- Integral Bonnet Needle Valves
- Union Bonnet Needle Valves
- Check Valves
- High Pressure Check Valves
- High Pressure Needle Valves
- Plug Valves
- Manifold Valves
- Vacuum Clamps
- Water Regulators
- Flexible Hoses
- Double Block & Bleed Valves
- Swing-Out Ball Valves
- Toggle Valves
- Bleed & Purge Valves
- Quick Connectors
- High Pressure Ball Valves
- Hydraulic Ball Valves
- Trunion Ball Valves
- Rising Plug Valves
- Relief Valves
- Cryogenic Needle Valves
- Cryogenic Ball Valves
- Micron in-Line Filters
- Gauge Root Valves
- Hydraulic Flange and Components

### Fitting Series

- Tube Fittings (Compression Type)
- Instrument Thread Fittings
- Forged Fittings
- Bite Type Tube Fittings (DIN2353)
- Bite Type Tube Fittings (JIS B2351)
- 37° Flared Tube Fittings (SAE J514)
- O-Ring Face Seal Fittings
- Hose Connectors & Push-On Hose Fittings

### Electric

- MCPD(Molded Case Power Distributor)

 **BMT Co., Ltd.**