Auto Feed Lube

ALF400 to 900

Standard Specifications

Model	Auto Feed Lube						Auto Feed Tank			
	ALF400	**ALF400-06**	**ALF500**	**ALF600**	**ALF800**	**ALF900**	**ALT-5**	**ALT-9**	**ALT-10**	**ALT-20**
Port size	1/4 3/8 1/2	3/4	3/4 1	1	1 1/4 1 1/2	2	AIR: 1/4 OIL: 3/8		AIR: 1/8 OIL: 1/4	
Fluid	Air									
Proof pressure	1.5 MPa									
Max. operating pressure	0.7 MPa						1.0 MPa		0.4 MPa	
Operating pressure (1) differential range	0.1 to 0.6 MPa						—			
Vibration resistance {Differential pressure 0.3 MPa}	1G (9.81m/sec^2) or less						—			
Min. operating flow (l/min (ANR))(2)	1/4: 65 3/8: 100 1/2: 120	120	190	220	1 1/4: 460 1 1/2: 650	1800	—			
Bowl capacity (cm^3) (Capacity between levels)(3)	—						5000 (4400)	9000 (7800)	160	1000
Recommended oil	Turbine oil Class 1 (With no additives), ISO VG32									
Ambient and fluid temperature	-5 to 60 °C (No freezing)									
Bowl material	Polycarbonate						Metal (Steel tubing for machine construction)			
Weight (kg)	0.85	0.88	1	1.15	1.85	1.9	12.6	26.0	—	—
Accessory (Standard) Bowl guard	●	●	●	●	●	●	—			

Note 1) Tank pressure is the pressure of Auto Feed Tank and line pressure is the pressure of Auto Feed Lube

Note 2) Conditions: Primary pressure 0.5 MPa, 5 drops/min, Turbine oil class 1 (ISO VG32), Temperature 20 °C, Needle fully open.
Use air consumption rate for minimum operating flow.

Note 3) Capacity between levels; in case of float switch equipped model, the capacity is measured in levels between the level gauge upper limit and the lower limit of the float switch detective range.

The problem of running out of oil is prevented because the oil is fed automatically.
This system makes lubrication work unnecessary, thus significantly reducing the amount of maintenance labour.

Accessories (Options) Part No.

Description \ Model	Part No.					
	ALF400	**ALF400-06**	**ALF500**	**ALF600**	**ALF800**	**ALF900**
Bracket	B44P	B44-1P	1 1/4: B45-1P 1 1/2: B45-2P	B46P	—	—

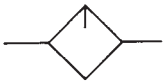
Note) A float switch can not be mounted on “ALT-5” or “ALT-9” afterwards.

ALF400

ALT-5

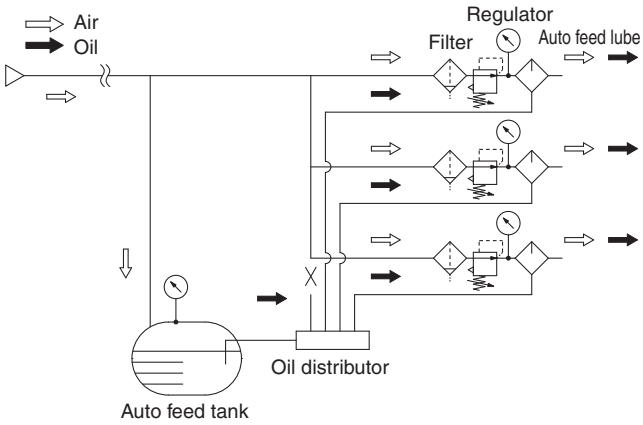
Symbol

Auto feed lube



Auto feed tank

Piping example



SMC

How to Order

<Auto Feed Lube>

ALF **40** **0** – □ **02** □ – □

Auto Feed Lube

Body size

40	1/2
50	3/4
60	1
80	1 1/2
90	2

Port size

02	1/4
03	3/8
04	1/2
06	3/4
10	1
12	1 1/4
14	1 1/2
20	2

Thread type

—	Rc
N	NPT
F	G

Option

—	—
R	Flow direction: Right to left

Option

Symbol	Description	Applicable model
—	—	—
B	With bracket	ALF400 to 600
X208	Metal case with a level gauge	ALF400 to 900

<Auto Feed Tank>

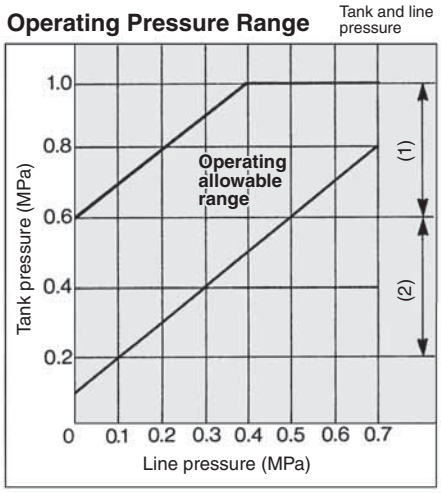
ALT – **5**

Auto Feed Tank

Tank capacity

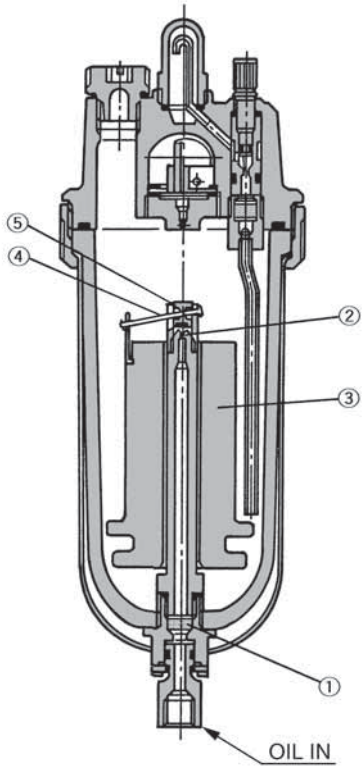
5	5000 cm³ tank
9	9000 cm³ tank
10	160 cm³ tank
20	1000 cm³ tank

Operating Pressure Range



Note 1) Tank pressure is removed when line pressure is stopped.
Note 2) Tank pressure is kept same when line pressure is stopped possible to use.

Working Principle/Auto Feed Lube



The oil that has been pumped from the tank passes through felt ① where it is filtered, and is fed into the case through nozzle ②. When the volume of oil reaches a certain level, float ③ ascends, valve ⑤ descends via lever ④, nozzle ② closes, and the feeding of oil stops, thus completing the oil feeding process. When the oil inside the case is consumed, float ③ descends, valve ⑤ ascends via lever ④, allowing oil to be fed from nozzle ②.

⚠ Precautions

Be sure to read this before handling the products.

Mounting

⚠ Warning

If the pressure is discharged, the oil could flow back if the operating pressure differential range (the differential between the tank and line pressures) exceeds 0.6 MPa. Therefore, make sure to also discharge the tank pressure.

⚠ Caution

Install the float vertically inside the bowl so that it will not come into contact with the siphon tube, preventing the oil from dripping poorly.

Maintenance

⚠ Caution

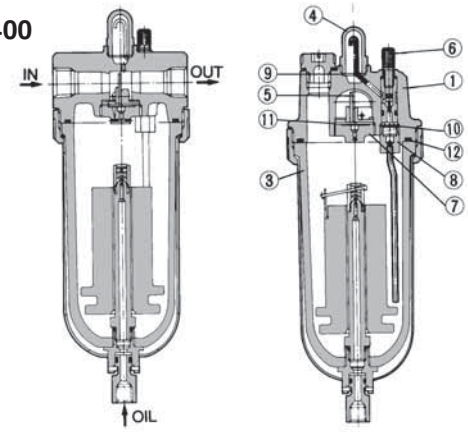
Oil cannot be fed into Auto Feed Lube under being pressuriSed. We recommend oil is supplied from cam handle (plug for oil supply) of an auto feed tank.

ALF400 to 900

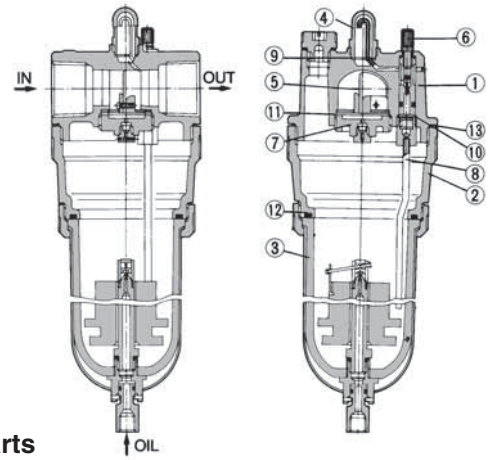
Construction: Auto Feed Lube

Symbol

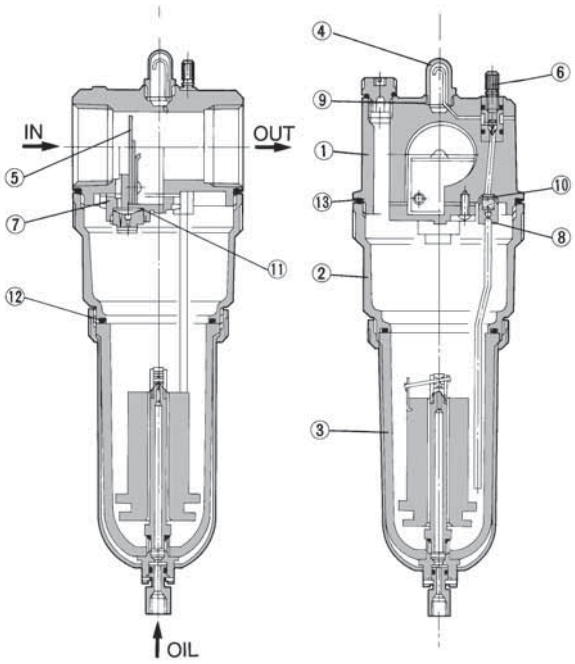
ALF400



ALF500/600
(The figure shows the ALF600.)



ALF800/900



Component Parts

No.	Description	Material			Note
		ALF400, 400-06	ALF500, 600	ALF800, 900	
1	Body	Aluminium die-casted		Aluminum casted	Platinum silver painted
2	Housing	—	Aluminium die-casted		Platinum silver painted

Replacement Parts

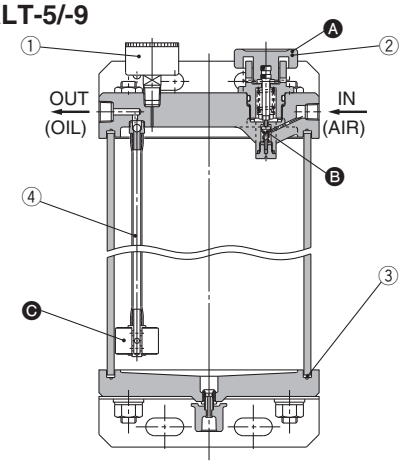
No.	Description		Material	Part no.						Qty.
				ALF400	ALF400-06	ALF500	ALF600	ALF800	ALF900	
3	Auto feed	Standard	—	ALF-3	ALF-3	ALF-3	ALF-3	ALF-3	ALF-3	1
		X208		ALF-3-X208	ALF-3-X208	ALF-3-X208	ALF-3-X208	ALF-3-X208	ALF-3-X208	
4	Sight dome		Polycarbonate	12316	12316	12316	12316	12316	12316	1
5	Bumper assembly		—	123122-3A (04) 123122-2A (03) 123122-1A (02)	123122-3A	123210A	123310A	123417A (12) 123416A (14)	12356A	1
6	Needle stud assembly		—	123128PA	123128PA	123128PA	123128PA	123128PA	123128PA	1
7	Retainer assembly		—	123182 Note1)	123182 Note1)	12325 Note2)	12335A-1	123032 Note1)	—	1
8	Siphon tube assembly		—	124230A	124230A	124231A	124232A	124232A	124232A	1
9	Sight dome seal		Urethane rubber	12318	12318	12318	12318	12318	12318	1
10	Siphon nut seal		Urethane rubber	123111	123111	123111	123111	123111	123111	1
11	Bumper retainer seal		NBR	123126	123126	123213	123313	123011	—	2 (1) Note3)
12	Bowl O-ring		NBR	113136	113136	113136	113136	113136	113136	1
13	Housing O-ring		NBR	—	—	KA00465	KA00466	KA00466	KA00466	1

Note 1) Description: Bumper retainer, Material: POM Note 2) Description: Bumper retainer, Material: Aluminium alloy
Note 3) ( ): Qty. for ALF800 only

Construction: Auto Feed Tank

Symbol

ALT-5/-9



Working principle/Auto Feed Tank

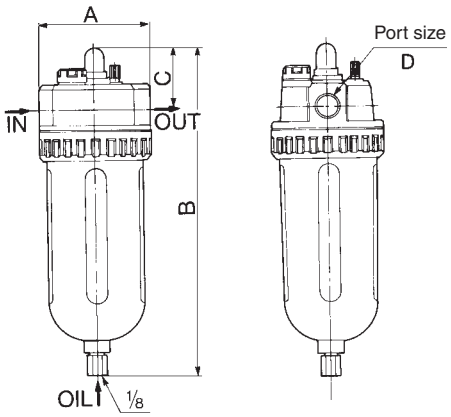
By turning cam handle Ⓐ 90° clockwise, valve Ⓑ opens, allowing the air that has entered from the IN side to be introduced into the tank. Due to the air pressure, the oil in the tank passes through felt Ⓒ and exits from the OUT side. Turning cam handle Ⓐ 90° counterclockwise stops the air from the IN side, thus stopping the feeding of the oil.

Component Parts

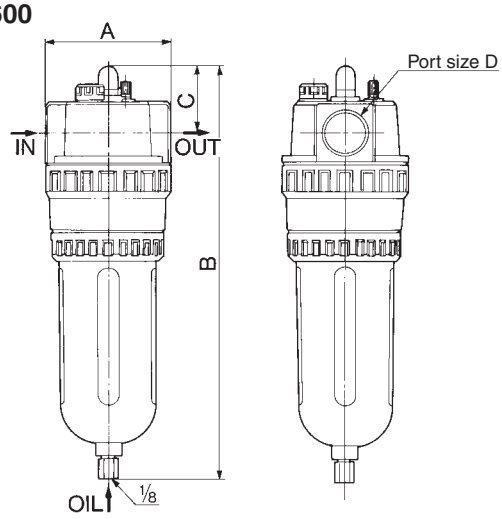
No.	Description	Material	Part no.		Qty.
			(N, E) ALT-5	(N, E) ALT-9	
1	Pressure gauge	—	G46-10-02(—, E) G46-P10-N02-X03(N)		1
2	Cam handle assembly	—	12374AP		1
3	Seal	NBR	12377	12384	2
4	Siphon tube assembly	—	123712A		1

Dimensions: Auto Feed Lube

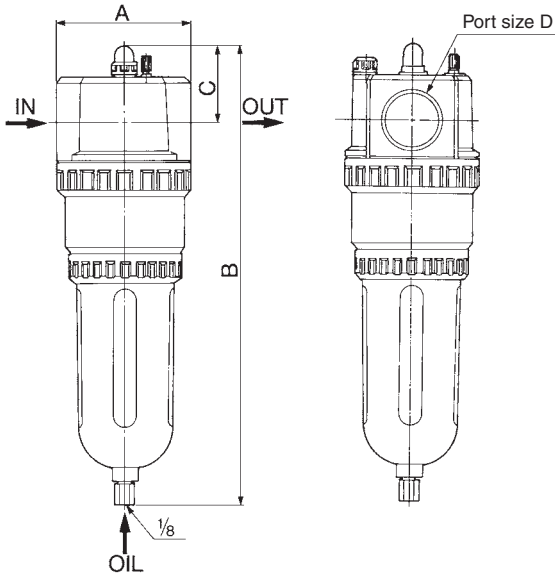
ALF400



ALF500/600

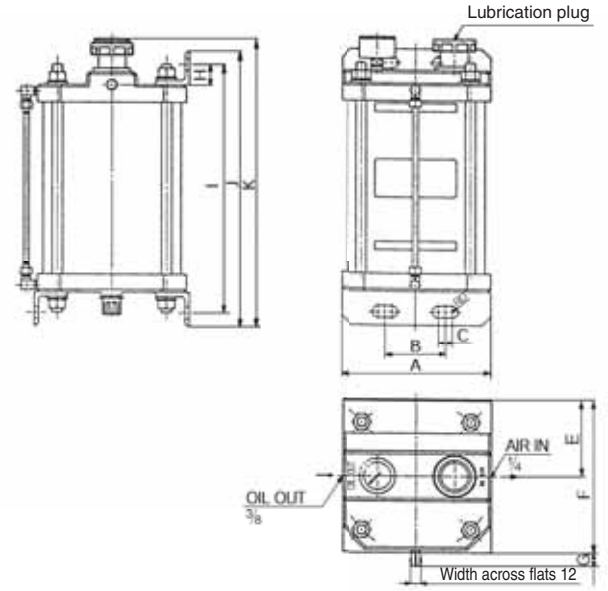


ALF800/900



Model	Port size D	A	B	C
ALF400	1/4, 3/8, 1/2	80	239	44
ALF400-06	3/4	85	247	46
ALF500	3/4, 1	90	296	48
ALF600	1	100	320	51
ALF800	1 1/4, 1 1/2	100	339	59
ALF900	2	100	345	63

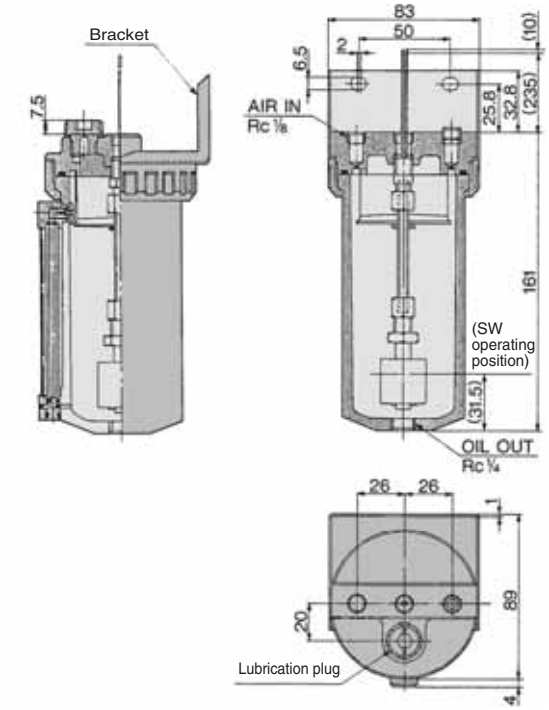
Dimensions: Auto Feed Tank



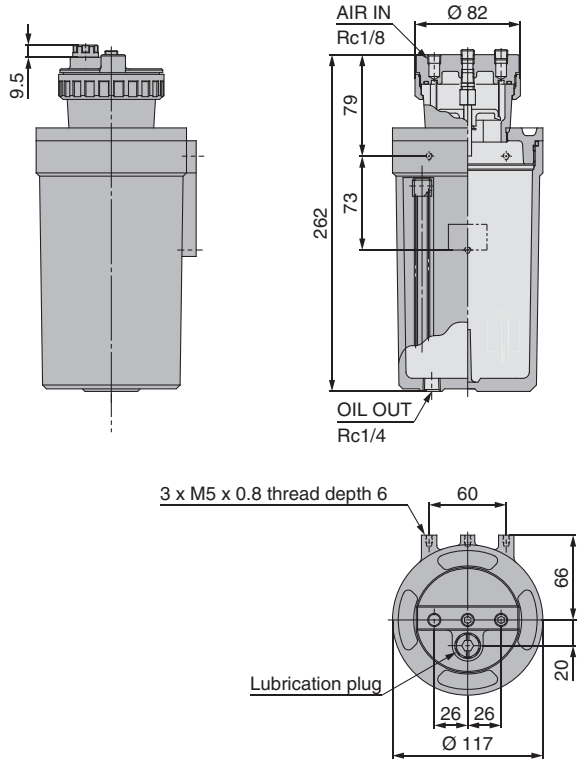
Model	A	B	C	D	E	F	G	H	I	J	K	L	M
ALT-5	174	70	16	7	91	182	15	24	382	414	428	—	5
ALT-9	234	108	30	7	121	242	16	40	422	472	—	482	5

Dimensions

Oil tank: ALT10



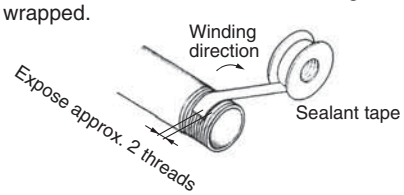
Oil tank: ALT20



Handling Precautions

Mounting

1. Mount the air pipes after sufficiently flushing them.
2. When screwing in pipes or fittings, be careful to avoid letting cutting chips from pipe screws, sealant, etc. get mixed in.
   When winding with sealant tape, be sure to leave 1.5 to 2 threads remaining unwrapped.



3. To screw a piping material into a component, tighten it by hand while holding the female thread side, and then tighten it two or three turns with an appropriate tool. For a tightening torque guide, refer to the table on the right. Excessive tightening may damage the threads or internal parts, and insufficient tightening may cause seal failure or loosen the threads. Furthermore, tightening without holding the female thread side can cause damage due to the excessive force that is applied directly to the bracket.

Recommended tightening torque (N·m)

Connecting thread size	1/8	1/4
Recommended tightening torque	3 to 5	8 to 12

Additionally, the screw-in depth of the fitting to the oil outlet should be 6 mm or less. If the fitting is screwed in 6 mm or more, the internal parts may be broken, causing malfunction.

4. When using the oil tank while exposing it to the outside air, mount it in a higher position than the impulse lubricator.
5. Provide enough space above the air release knob of the impulse lubricator to release the air.
6. For ALT10 series, a slight clearance is provided between the product and bracket. If this clearance is not allowable, contact SMC.

Lubrication

1. After supplying oil to the oil tank, a large volume of air bubbles will be mixed in with the oil, so either wait for the air bubbles to dissipate, or use vacuum suction to remove the bubbles before using the equipment.
2. If air enters the interior of the impulse lubricator pump chamber, oil will cease to be discharged; if this happens, be sure to release the air.
3. Never screw any plug, etc. into the OIL OUT side of the impulse lubricator.

ALF400 to 900, ALT-5/-9
Related Products:

Oil Distributor VA, VB Series

VB6-6

VA4-6

How to Order

V A 4 – 6

- **V A**: Oil distributor
- **4**: Distribution

A	Both sides exhaust
B	One side exhaust

- **–**: Number of distribution ports

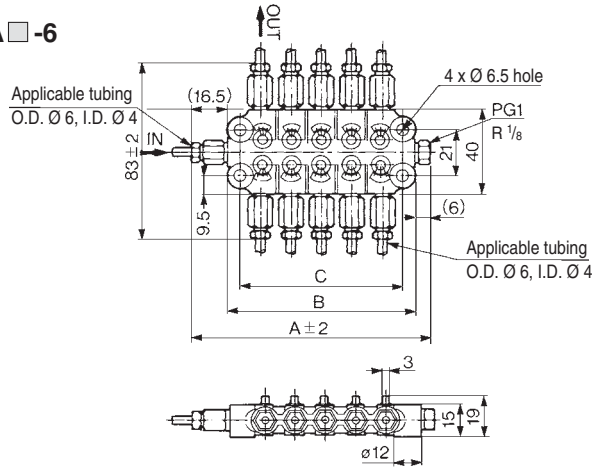
(VA)		(VB)	
4	4 port	**4**	4 port
6	6 port	**6**	6 port
10	10 port	**8**	8 port
16	16 port		

- **6**: Applicable tubing O.D.

6	Ø 6

Dimensions

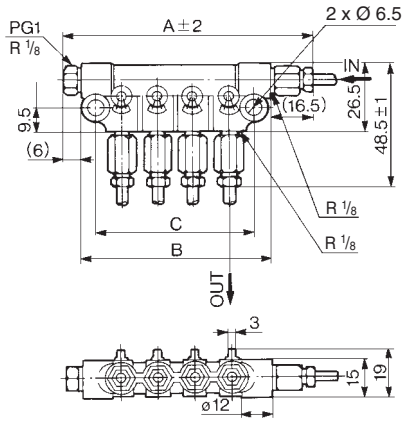
VA□-6



Model	Number of distribution ports	A	B	C	Applicable tubing
VA4-6	4	—	36.5	—	Ø 6
VA6-6	6	82.5	60	48	
VA10-6	10	110.5	88	76	
VA16-6	16	152.5	130	118	

Note) Insert seal plug (PG1) into the distribution port which is not used.

VB□-6



Model	Number of distribution ports	A	B	C	Applicable tubing
VB4-6	4	96.5	74	62	Ø 6
VB6-6	6	124.5	102	90	
VB8-6	8	152.5	130	118	

Nylon Tubing

T0604

Specifications

Model	T0604
Max. operating pressure	1.5 MPa
Burst pressure	Refer to the burst pressure characteristics curve.
Min. bending radius (mm) Note)	24
Operating temperature	-20 °C to 60 °C
Material	Nylon 12

Note) The value at temp. of 20 °C and with O.D. variable rate 10 % max.

How to Order

T 0604 B – 20

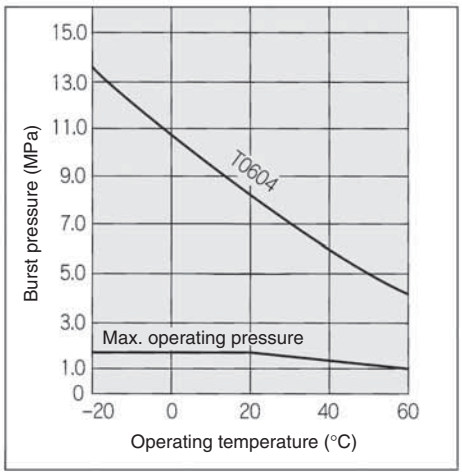
- **T**: Nylon tubing
- **0604**: Tube size O.D. Ø 6 I.D. Ø 4
- **B**: Colour

Symbol	Colour
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green

- **20**: Length per roll

20	20 m
100	100 m roll (Black, white only)

Burst Pressure Characteristics Curve and Operating Pressure



∗ Maximum operating pressure is 1/3 max. of burst pressure at 60 °C, considering the safety ratio.