

Accessories for NSK Oil-Air Lubricators

Oil filters remove minute particles in the oil, and air bleed valves offer convenience during oil filter cleaning and pipe maintenance. Use them together with the oil pressure-relief function of the pump and pressure switch block.

Pumps with oil pressure-relief monitoring devices are:

Models	High performance unit	:	OAH-1
	Economical unit	:	OAE-1
	High capacity unit	:	OAM-1

Pressure switches are recommended for the pressure switch block and mixing valve.

Oil Filters

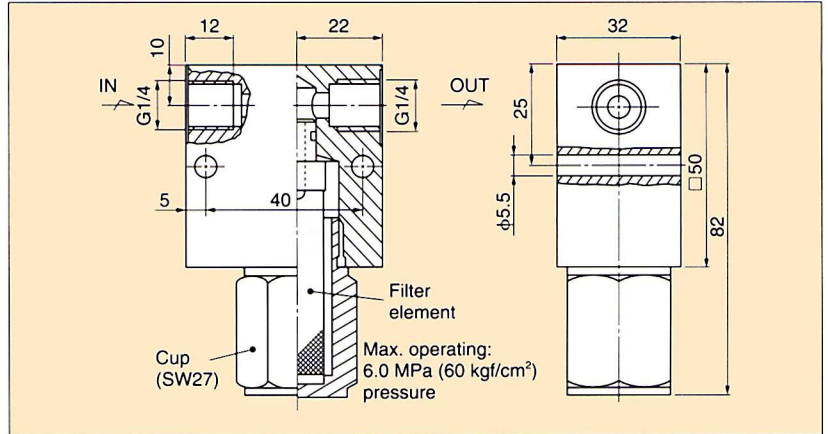
An oil filter can be installed between the pump/control unit and mixing valve of the oil-air lubrication system. The filter may be removed for cleaning when a hexagonal cup is removed.

An air bleeding valve is convenient to help purge air after cleaning the filter.

Select the appropriate type for the application.

Part No	Filtration capability(μm)	Filtration area (cm^2)	Order no. for replacement filter
OAV-02	3	18	OAV-02
OAV-03	20	18	OAV-03

Note: A clogged filter may cause trouble with the oil pressure-relief function of the oil-air unit resulting in failure of constant-rate discharge of the mixing valve. Clean the filter periodically. It is also recommended to mount a pressure-relief monitoring switch if a filter is used.
For details, contact NSK.

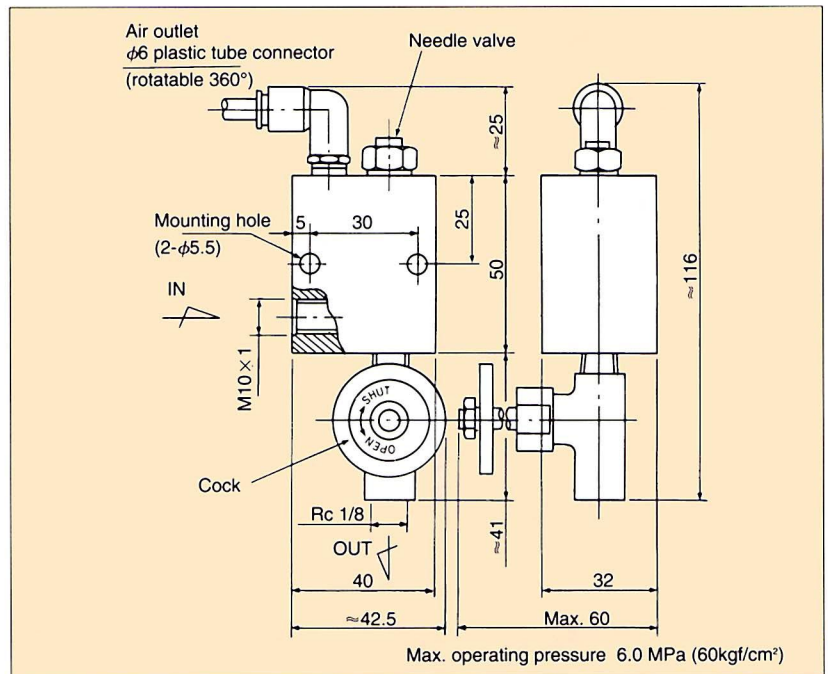


Air Bleed Valves

These bleed valves facilitate bleeding air after disconnecting oil lines or cleaning the oil filter during maintenance of the lubricator.

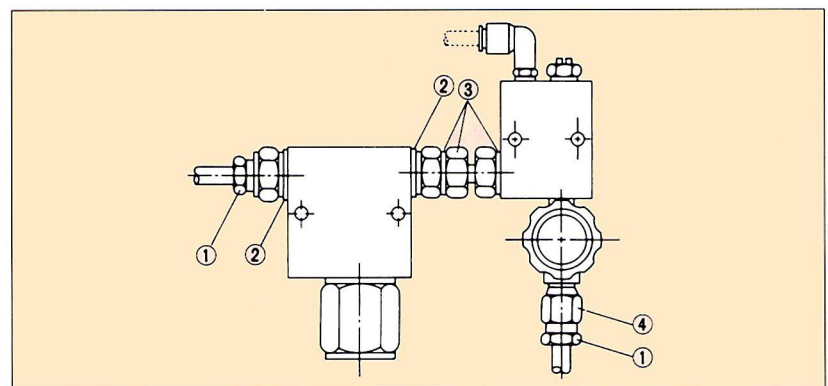
For details, contact NSK.

Part No.: OAV-01



Connecting Joints for Oil Filters and Air Bleed Valves

Coupling parts for oil filters and air bleed valves are available.



Part No.	Applicable tube	① Clamping nut sleeve inlet	② Male-female joint gasket	③ Connecting joint	④ Male-Female joint gasket
OAJ-V1	Plastic tube(O.D.φ6)	OAJ16 (×2)	OAJ74 (×2)	OAJ78	OAJ80
OAJ-V2	Steel tube(O.D.φ6)	OAJ14 (×2)	OAJ74 (×2)	OAJ78	OAJ80

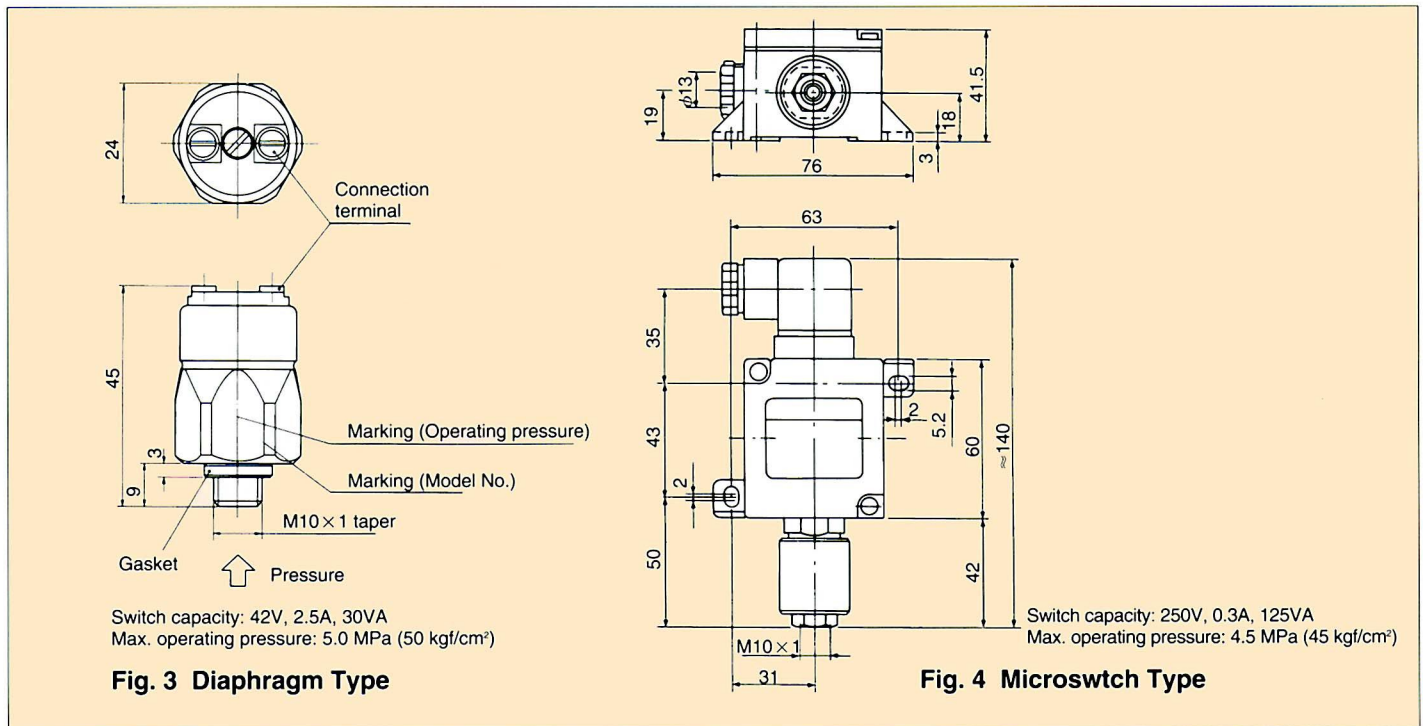
Accessories for NSK Oil-Air Lubricators

Pressure Switches

Pressure switch, which are used to monitor the operation of the OAH, OAE and OAM units.
Use an elbow joint when mounting the switch on a mixing valve.

Part No.	Location	Operating pressure (MPa)	Marking	Contact type	Drawing
OAG-PA2	For air pressure monitoring	0.15 $\begin{smallmatrix} +0.10 \\ -0.05 \end{smallmatrix}$	110 200-1	NO	Fig.3
OAG-PA4	For air pressure monitoring	1.3 $\begin{smallmatrix} +0.15 \\ -0.10 \end{smallmatrix}$	110 201-1	NO	Fig.3
DS-W1-2N	For oil pressure relief	0.1 $\begin{smallmatrix} +0.03 \\ 0 \end{smallmatrix}$	—	1C	Fig.4

Remarks: A gasket and protective cap are included.



Plastic Tubing

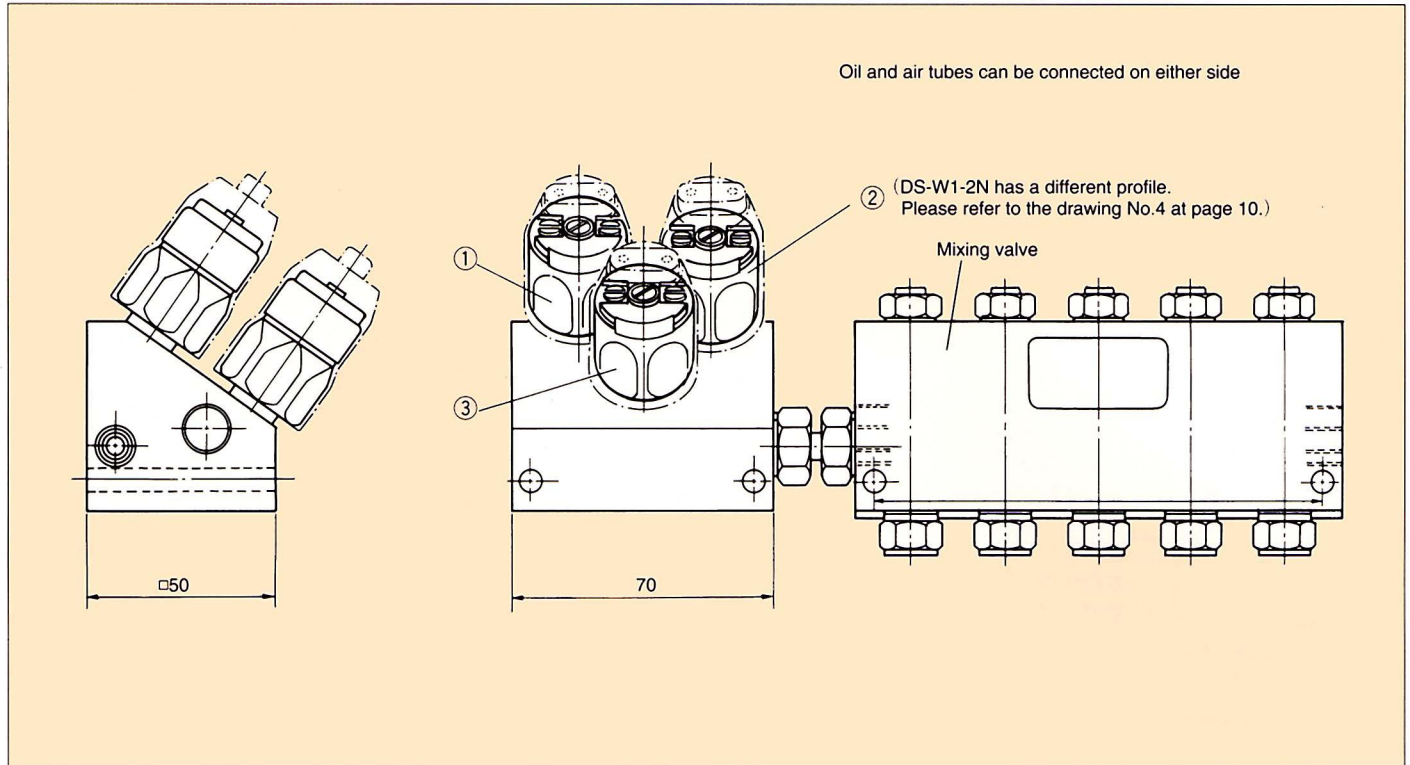
Use care when selecting plastic tubing for oil lines because the NSK Oil-Air Lubricator uses oil at high-pressure.

Parts No.	Location	Material	O.D./I.D. (mm)	Pressure capacity (MPa)	Length per roll (m)
OATB-04-20	Oil-air tubing	Transparent urethane tubing	4/2.2	1.0	20
OAT-06-20	Oil lines	Nylon tubing	6/4	4.5	20
OAT-08-25	Air lines	Nylon tubing	8/5.5	2.5	25

Accessories for NSK Oil-Air Lubricators

Pressure Switch Blocks

Pressure switch blocks are used to install pressure switches in the mixing valve. The mixing valve and pressure switch block can be connected using the coupling parts that are included.

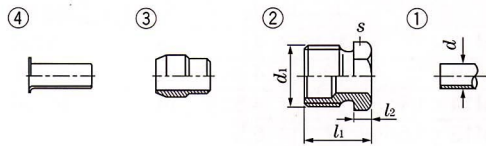


Part No.	Applicable unit	① For oil pressure monitoring	② For pressure relief monitoring	③ For air pressure monitoring
OAG-01	OAM type	OAG-PA4	Plug (OAJ64)	OAG-PA2
OAG-03	Checking oil pressure relief	OAG-PA4	DS-W1-2N	OAG-PA2

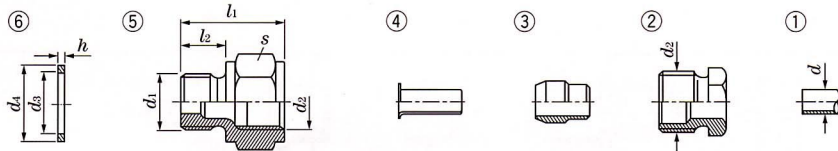
- Remarks
- OAG-01 includes the following coupling parts: one pc. OAJ8, one pc. OAJ78, two pcs. OAJ64 and one pc. OAJ9.
 - OAG-03 includes the following coupling parts: one pc. OAJ8, one pc. OAJ78, one pc. OAJ64, one pc. OAJ9, two pcs. OAJ14 and one pc. OAJ46.(DS-W1-2N is fixed using OJA14 and OAJ46.)
 - The pressure switches of OAG-PA2, OAG-PA4 and DS-W1-2N are not included with pressure switch blocks.

For Plastic Tubing

Tube coupling

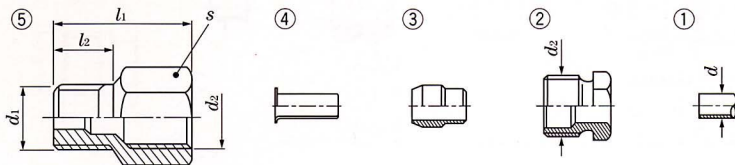


Part No.	①	②			③	④	
	Applicable tube O.D.	Clamping nut			Sleeve	Inlet	
	d	d_1	l_1	l_2	S	OAJ No.	OAJ No.
OAJ11	4	M 8×1	12	4	8	OAJ35	OAJ38
OAJ16	6	M10×1	13	4	10	OAJ36	OAJ39
OAJ28	8	M14×1.5	16	4.5	14	OAJ37	OAJ40



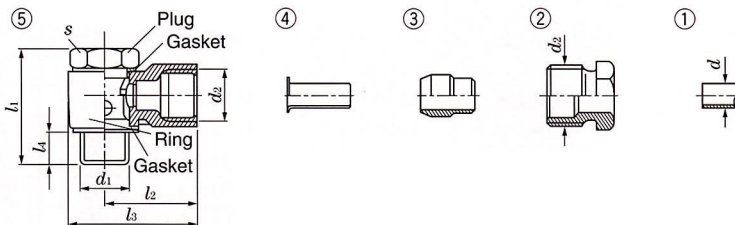
Male-female joints

Part No.	①	②	③	④	⑤				⑥			
	Applicable tube O.D.	Clamping nut	Sleeve	Inlet	Male-female joint				Gasket			
	d		d_2		d_1	d_2	l_1	l_2	s	d_3	d_4	h
OAJ18	8	M14×1.5 (OAJ28)			M12×1	M14×1.5	29	9	17	12.2	15.9	1.4
OAJ45	—				M14×1.5	RC1/4	29	9	17	14.2	17.9	1.5
OAJ63	8	M14×1.5 (OAJ28)			M10×1	M14×1.5	28	7.5	17	10.2	13.9	1
OAJ65	6	M10×1 (OAJ16)			R1/4	M10×1	20	10	17	13.3	17.9	1.5



Male-female joints (PT Threads)

Part No.	①	②	③	④	⑤				
	Applicable tube O.D.	Clamping nut	Sleeve	Inlet	Male-female joint				
	d		d_2		d_1	d_2	l_1	l_2	s
OAJ42	8	M14×1.5			R1/4	M14×1.5	24.5	11	17
OAJ43	6	M10×1			R1/8	M10×1	18	7.5	12

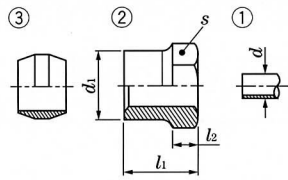


Universal joints-Elbow type

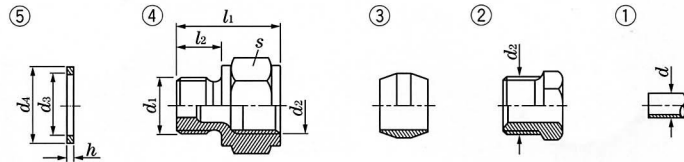
Part No.	①	②	③	④	⑤						⑥	
	Applicable tube O.D.	Clamping nut	Sleeve	Inlet	Universal joint						Gasket	
	d		d_2		d_1	d_2	l_1	l_2	l_3	l_4	s	h
OAJ 7	6	M10×1 (OAJ16)			M12×1	M10×1	34	25	35.2	7.5	17	1.4
OAJ19	8	M14×1.5 (OAJ28)			M12×1	M14×1.5	34	27	37	7.5	17	1.4

For Steel Tubing

Tube coupling

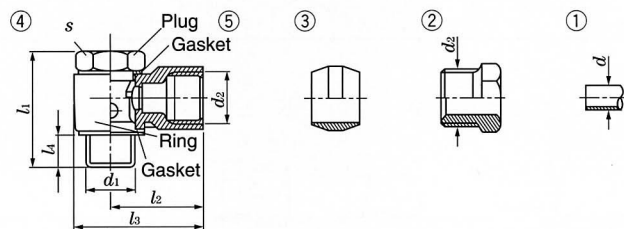


Part No.	①	②				③
	Applicable tube O.D.	Clamping nut				Sleeve
	d	d_1	l_1	l_2	S	OAJ No.
OAJ10	4	M 8×1	12	4	8	OAJ54
OAJ14	6	M10×1	13	4	10	OAJ55
OAJ12	8	M14×1.5	16	4.5	14	OAJ56
OAJ53	10	M16×1.5	17	5.5	17	OAJ75



Male-female joints

Part No.	①	②	③	④	⑤				⑥			
	Applicable tube O.D.	Clamping nut	Sleeve	Inlet	Male-female joint				Gasket			
	d		d_2		d_1	d_2	l_1	l_2	s	d_3	d_4	h
OAJ 2	8	M14×1.5 (OAJ12)		M12×1	M14×1.5	29	9	17	12.2	15.9	1.4	
OAJ 3	10	M16×1.5 (OAJ53)		M12×1	M16×1.5	31	9	19	12.2	15.9	1.4	
OAJ15	8	M14×1.5 (OAJ12)		M10×1	M14×1.5	28	7.5	17	10.2	13.9	1	
OAJ13	10	M16×1.5 (OAJ53)		M14×1.5	M16×1.5	29	9	19	14.2	17.9	1.5	

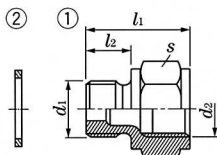


Universal joints-Elbow type

Part No.	①	②	③	④							⑤
	Applicable tube O.D.	Clamping nut	Sleeve	Universal joint							Gasket
	d	d_2		d_1	d_2	l_1	l_2	l_3	l_4	s	h
OAJ5	6	M10×1 (OAJ14)		M12×1	M10×1	34	25	35.2	7.5	17	1.4
OAJ6	8	M14×1.5 (OAJ12)		M12×1	M14×1.5	34	27	37	7.5	17	1.4

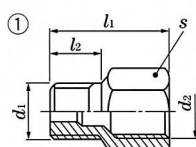
Common Parts

Male-female joints (sealed by gasket)



Part No.	①					②
	Male-female joint					Gasket
	d_1	d_2	l_1	l_2	s	OAJ No.
OAJ46	M10×1	M10×1	18	7.5	14	OAJ32
OAJ70	M10×1	M14×1.5	28	7.5	17	OAJ32
OAJ49	M10×1	RC1/4	26.5	7.5	17	OAJ32
OAJ71	M12×1	M10×1	19	9	17	OAJ33
OAJ72	M12×1	M14×1.5	29	9	17	OAJ33
OAJ48	M12×1	RC1/4	29	9	17	OAJ33
OAJ50	M14×1.5	M10×1	18	9	17	OAJ34
OAJ73	M14×1.5	M16×1.5	29	9	19	OAJ34
OAJ45	M14×1.5	RC1/4	29	9	17	OAJ34
OAJ74	R-1/4	M10×1	20	10	17	OAJ81

Male-female joints (PT Threads)

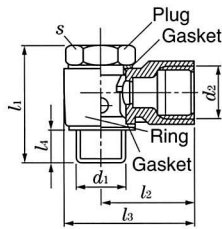


Part No.	①				
	Male-female joint				
	d_1	d_2	l_1	l_2	s
OAJ79	R1/4	M14×1.5	24.5	11	17
OAJ80	R1/8	M10×1	18	7.5	12

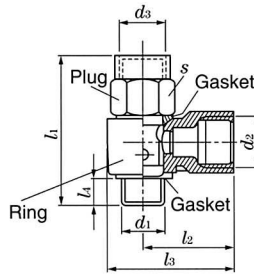
Common Parts

Universal joints

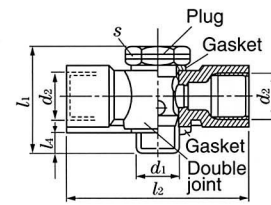
Elbow type



L type

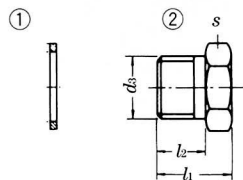


T type



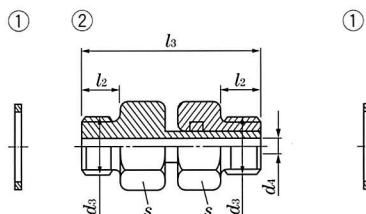
Part No.	Joint shape	Applicable tube O.D.	Universal joint								Gasket OAJ No.
			d_1	d_2	d_3	l_1	l_2	l_3	l_4	S	
OAJ21	Elbow type	6	M10×1	M10×1	—	26	21	28.5	6.5	14	OAJ32
OAJ76	Elbow type	6	M12×1	M10×1	—	34	25	35.2	7.5	17	OAJ33
OAJ77	Elbow type	8	M12×1	M14×1.5	—	34	27	37	7.5	17	OAJ33
OAJ20	Elbow type	8	M14×1.5	M14×1.5	—	34	27	37	7.5	17	OAJ34
OAJ83	L type	6	M10×1	M10×1	M10×1	33	25	35.2	6.5	14	OAJ32
OAJ51	L type	6	M12×1	M10×1	M10×1	38	25	35.2	7.5	17	OAJ33
OAJ52	L type	6, 8	M12×1	M10×1	M14×1.5	44	25	35.2	7.5	17	OAJ33
OAJ29	L type	8	M14×1.5	M14×1.5	M14×1.5	43	27	37	7.5	17	OAJ34
OAJ30	T type	8	M14×1.5	M14×1.5	—	34	54	—	7.5	17	OAJ34

Plug



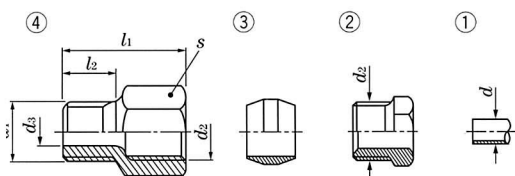
Part No.	① Gasket	② Plug			
	OAJ No.	d_3	l_1	l_2	S
OAJ17	OAJ31	M 8×1	10	6	11
OAJ64	OAJ32	M10×1	12	7	12
OAJ 9	OAJ33	M12×1	12	7	17
OAJ84	OAJ34	M14×1.5	12	7	17

Connection joint



Part No.	① Gasket	② Connection joint (universal)				
	OAJ No.	d_3	d_4	l_1	l_2	S
OAJ8	OAJ33	M12×1	4	33	7	17
OAJ78	OAJ32	M10×1	3.5	33	7	14

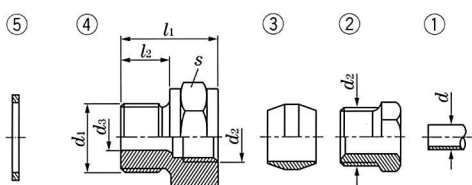
Through joint (with tapered threads)



Part No.	① Applicable tube O.D.	② Clamping nut	③ Sleeve	④ Through joint (tapered)				
	d	OAJ No.		d_1	d_2	l_1	l_2	d_3
OAJ24	4	OAJ10	*M 8×1 Taper	M 8×1	17	7.4	4.1	11
OAJ25	6	OAJ14	*M10×1 Taper	M10×1	18	7.4	6.1	14
OAJ41	4	OAJ10	*M10×1 Taper	M 8×1	16	7.4	4.1	11
OAJ47	4	—	R1/8	M 8×1	16.5	8	4.1	10
OAJ59	6	OAJ14	R1/8	M10×1	18	7.5	6.1	12
OAJ88	4	OAJ10	R1/4	M 8×1	14	9	4.1	14
OAJ89	4	OAJ10	R1/8	M 8×1	16.5	8	4.1	10

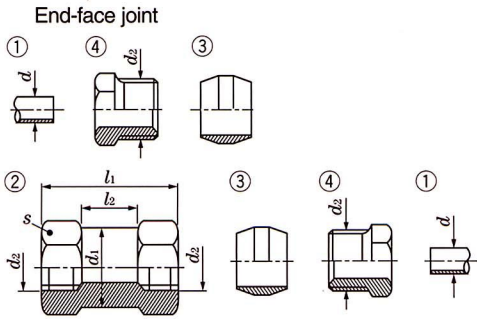
* Use straight female threads for side on which the through joint is mounted

Through joint (with gasket)



Part No.	① Applicable tube O.D.	② Clamping nut	③ Sleeve	④ Through joint					⑤ Gasket
	d	OAJ No.		d_1	d_2	l_1	l_2	d_3	S
OAJ26	4	OAJ10	M12×1	M 8×1	18	9	4.1	17	OAJ33
OAJ27	6	OAJ14	M12×1	M10×1	19	9	6.1	17	OAJ33

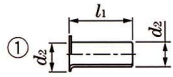
Common Parts



Part No.	①	②					③	④
	Applicable tube O.D.	End-face joint					Clamping nut	Sleeve
	d	d_1	d_2	l_1	l_2	S	OAJ No.	
OAJ22	4	9.8	M 8×1	28	8	10	OAJ10	
OAJ23	6	11.8	M10×1	31	11	12	OAJ14	

Spare Parts

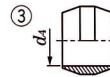
Inlet (for plastic tube)



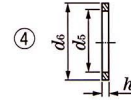
Sleeve (for plastic tube)



Sleeve (for steel tube)



Gasket



Part No.	Applicable tube O.D.	①		
		l_1	d_1	d_2
OAJ38	4	10	2.2	3.8
OAJ39	6	12	3.9	5.8
OAJ40	8	15	5.4	7.8

Part No.	Applicable tube O.D.	②
		d_3
OAJ35	4	4
OAJ36	6	6
OAJ37	8	8

Parts No.	Applicable tube O.D.	③
		d_4
OAJ54	4	4
OAJ55	6	6
OAJ56	8	8
OAJ75	10	10

Part No.	Applicable thread	④		
		d_5	d_6	h
OAJ31	M 8	8.2	11.4	1
OAJ32	M10	10.2	13.9	1
OAJ33	M12	12.2	15.9	1.4
OAJ34	M14	14.2	17.9	1.5
OAJ81	R1/4	13.3	17.9	1.5

Accessories for NSK Oil-Air Lubricators

OIL SUPPLY NOZZLES (utility model pending)

These oil-air supply nozzles were developed to ensure a stable supply of oil to bearings. There is a design appropriate for each bearing type and size.

Design and Mounting

Model	Angular Contact Ball Bearings			Cylindrical Roller Bearings	
	XB-D series	XB-S series	XB-U series	XC-S series	XC-U series
Nozzle Design					
	Nozzle mounting				

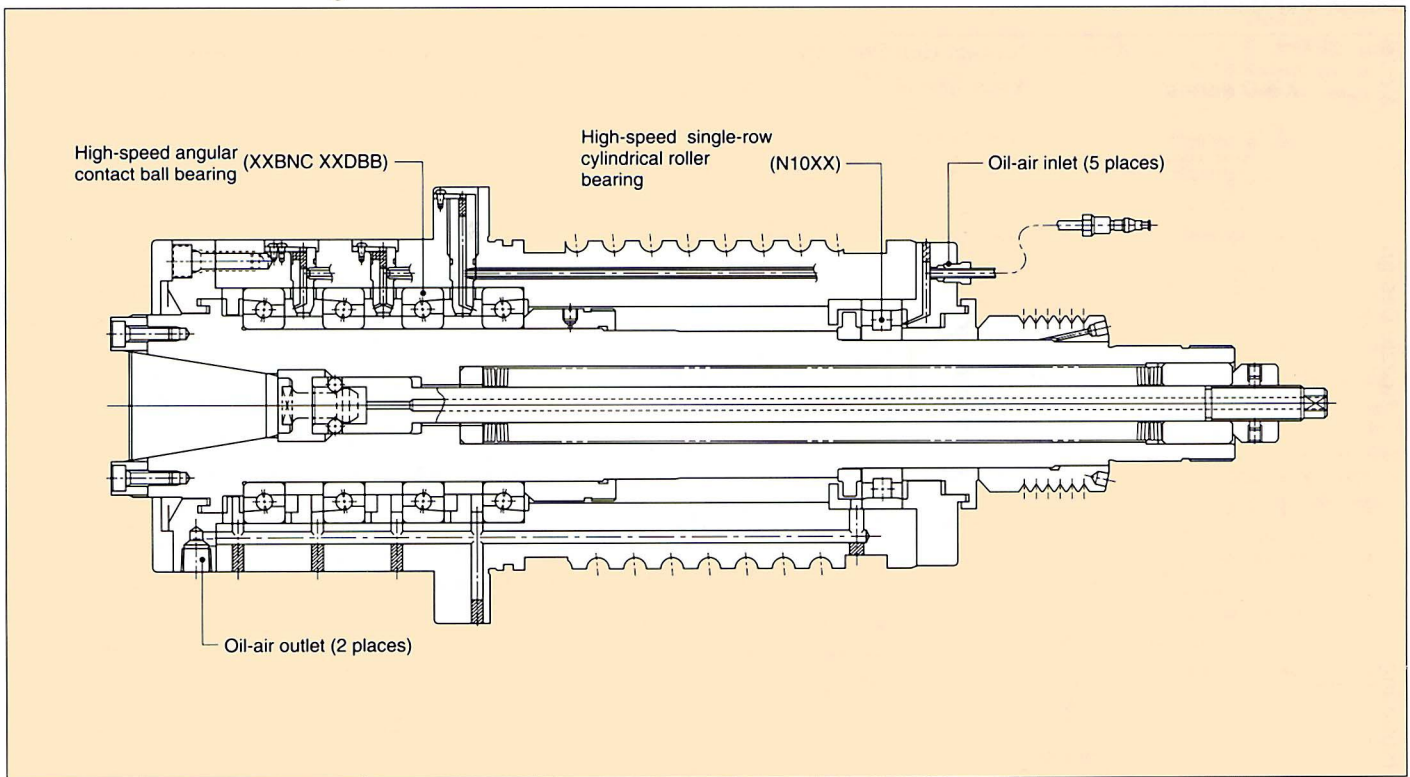
Mounting Dimensions Table

Model No.	Applicable Bearing No.			Nozzle Length Under Neck	Mounting Dimensions							
	70XXTY series	BNC10TY series	BNC19T series		L	X	T					
XB-D20S-1	—	—	40BNC19T	20	8.5	13.0						
			45BNC19T									
			50BNC19T									
XB-S20S-1	—	—	55BNC19T	20	8.0	12.5						
			60BNC19T									
			65BNC19T									
XB-U20S-1	7008TY	40BNC10TY	—	20	7.5	12.0						
	7009TY, 7010TY	45BNC10TY	70BNC19T	20	6.5	11.0						
		50BNC10TY	75BNC19T									
XB-D25S-1	—	55BNC10TY	85BNC19T	25	10.5	15.0						
		60BNC10TY	90BNC19T									
		65BNC10TY	95BNC19T									
XB-S25S-1	7011TY, 7012TY, 7013TY	—	—	25	10.0	14.5						
	—	—	100BNC19T	25	9.0	13.5						
	7014TY	70BNC10TY	105BNC19T	25	8.5	13.0						
XB-U25S-1	7015TY	—	—	25	8.0	12.5						
		—	—				120BNC19T					
	7016TY, 7017TY	80BNC10TY	—	25	7.0	11.5						
XC-S15S-1	—	—	—	15	8.5	13.0						
							XC-U15S-1	—	—	15	7.0	11.5
XC-U20S-1	—	—	—	20	10.0	14.5						

NSK Cartridge Spindles (Oil-Air Lubrication Type)

NSK produces standard cartridge spindles for machining centers. These spindles are capable of high speeds with oil-air lubrication. We recommend using these spindles together with FINE-LUB. For details, refer to NSK catalogue no. E2202 "Standard Spindles."

A Series for Machining Centers



M Series for Machining Centers (Integrated-Motor Type)

