

# FLEU

## Chemical

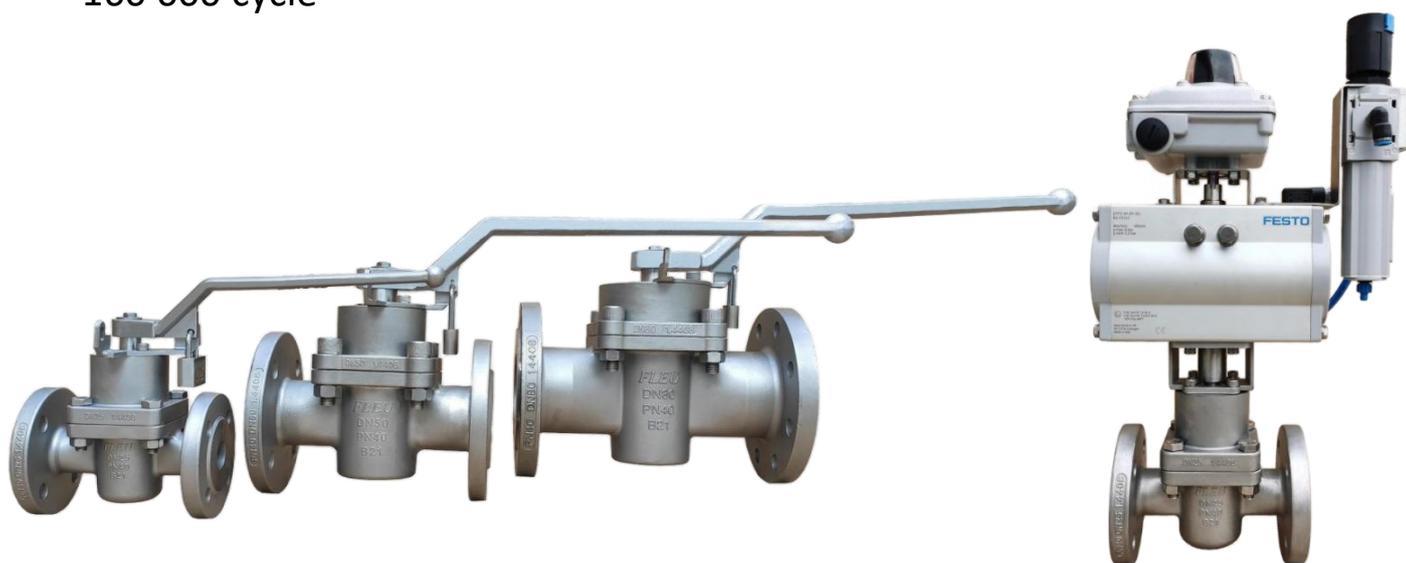
# B21-5S high performance Plug Valve



Patented design

TA-Luft 2021 , ISO 15848-1 BH CO3 -60°C 200°C SSA 0

160 000 cycle



## *FLEU* B21 5S Low Emission Sleeved Plug Valve



**Applications CHEMICAL**

Chemicals TDI, MDI, Ethylenoxid Chlor, Alkali, Pulp and Paper, desalination of seawater Polymers, Polypropylene plant ammonia, Fertilizers Hydrofluoric Acid

**Technical Details**

<b>Body Materials</b>	1.0619, 1.1138, ASTM A216 WCB, ASTM A352 LCC/LCB 1.4308, 1.4408, 1.4529, 1.4539, ASTM A351 CF8, CF8M
<b>Size range</b>	1/2" - 24" / DN15 - DN600
<b>Pressure range</b>	150lbs - 300lbs / PN10 - PN40
<b>Temperature range</b>	-50°C up to +280°C
<b>Connection</b>	Flanged End, Weld End
<b>Options</b>	Different sleeve and packing materials, Firesafe, Actuation Full bore(≤DN20) and reduced bore(≥DN25)

**Certificates**

ISO15848-1 (BH CO3 -60°C 200°C SSA 0), TA-Luft 2021, DGRL 2014/68/EU, AD 2000, API607

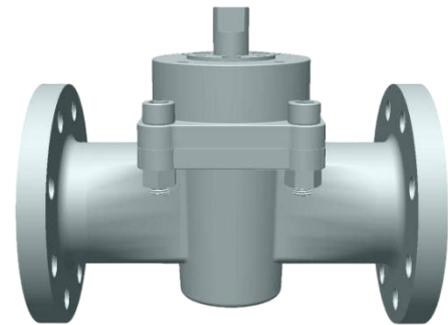
**Design features**

1. Camprofiled body cover joint gasket.
2. 360° port lips on body prevent cold flow and deformation of the sleeve, eliminating the chances that the sleeve will rotate during thermal cycling.
3. Pressure relief hole depending on condition as for Hydrofluoric Acid, Chlor, Oleum.
4. With locking device.
5. 5"/DN125 and larger: Gear box.
6. Dead cavity free.
7. Maintenance free, self-lubrication, these valves prevent accumulation or contamination of process media.
8. Plug adjustability.
9. Mounting-flange for actuators acc. to DIN ISO 5211.
10. Anti-static design.

<b>Design standards for DIN valves</b>	<b>Design standards for ANSI valves</b>
1. Design: AD 2000 A4, ATEX 2014/34/EU, EN 12516. 2. Inspection and test: EN 12266 3. Face to face dimension: For DN15-DN100, EN 558-1, G1; For DN125 and larger, EN 558-1, G3 . 4. Dimension of connection end Flange end: EN 1092-1, Form B1 BW end acc. to EN 12627.	1. Design: ASME B16.34. 2. Inspection and test: API 598. 3. Face to face dimension: ASME B16.10 . 4. Dimension of connection end Flange end: ASME B16.5 BW end: ASME B16.25.

### FLEU 5S stem seal System

The 5S Soft Seated Sleeved Plug Valve is with live-loaded Stem packing, permits fugitive emissions control ISO 15848-1 BH CO3 -60°C 200°C SSA 0 and TA Luft 2021 at temperatures and meet the stringent emissions standards in the chemical industry.



#### Details about the 5S seal system:

##### 1. Primary Seal to Atmosphere

360° port lips and high pressure ribs ensure the seat seal and primary seal to atmosphere.

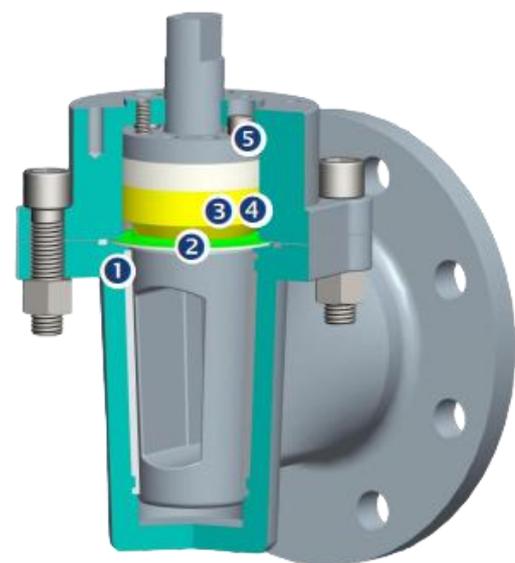
Plug is adjustable.

##### 2. Secondary Seal to Atmosphere

Enabled wedge ring and plastic diaphragm design ensuring protection to stem seal and body cover joint.

##### 3. 4. and 5. seal to atmosphere Patented live-loaded stem system

Optimizes sealing integrity to Atmosphere



**Cutway view on 5S**

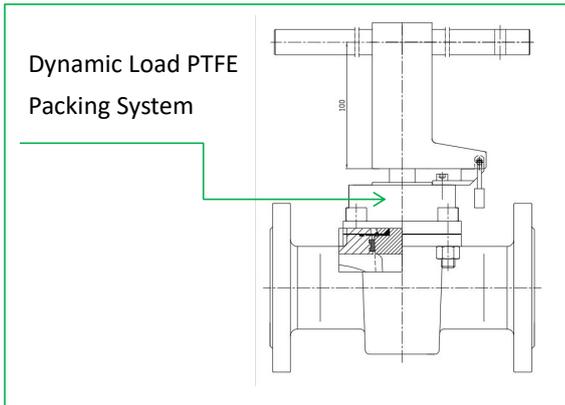
#### Options:

Different packing materials such as PTFE, TFM, RPTFE, Viton, and graphite are available, with a temperature range up to 280°C.

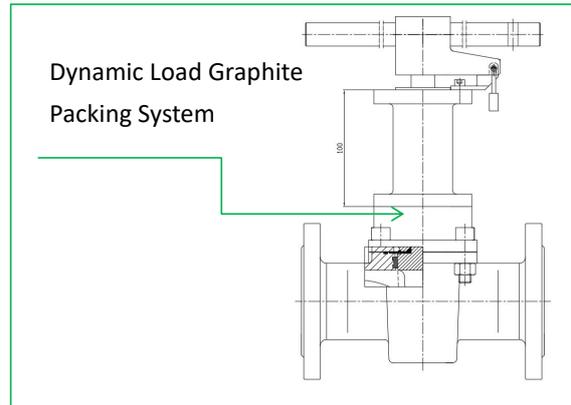
Different sleeve materials, including PTFE, TFM, and RPTFE, are also available, with a temperature range up to 280°C.

The patented 5-seal system, including the live-loaded stem packing system, guarantees an absolute seal to the atmosphere and seat, even with temperature fluctuations.

**Options:**



Pure PTFE: Sleeve, Gasket, Packing  
T-handle raised by 100mm



Fire-safe: Graphite gasket, Graphite packing  
T-handle, ISO flange extended by 100mm



Lockable handle



Lockable T-handle

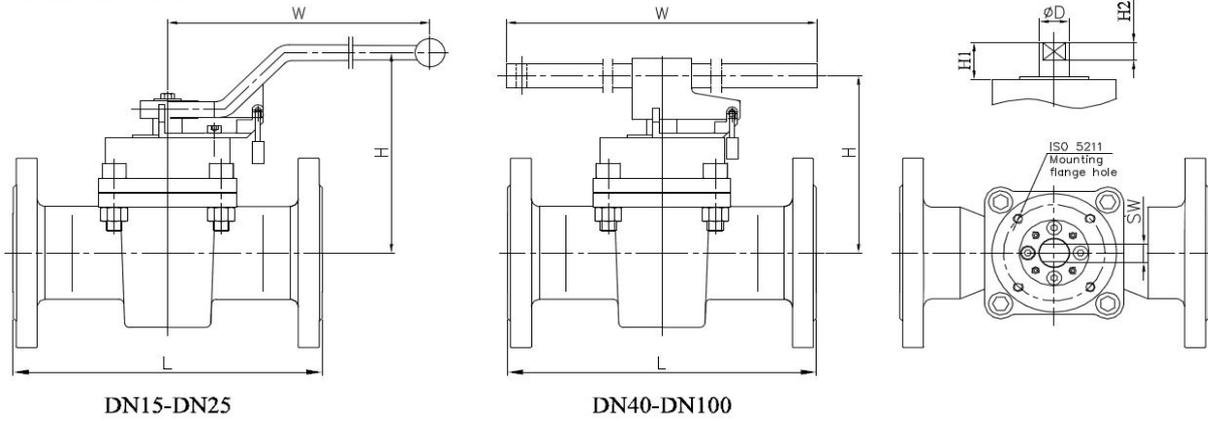


Gearbox operation



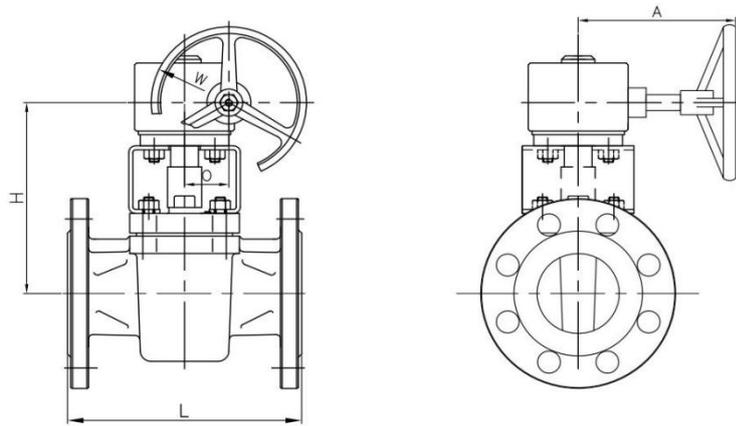
Pneumatic operation

**Dimension list**



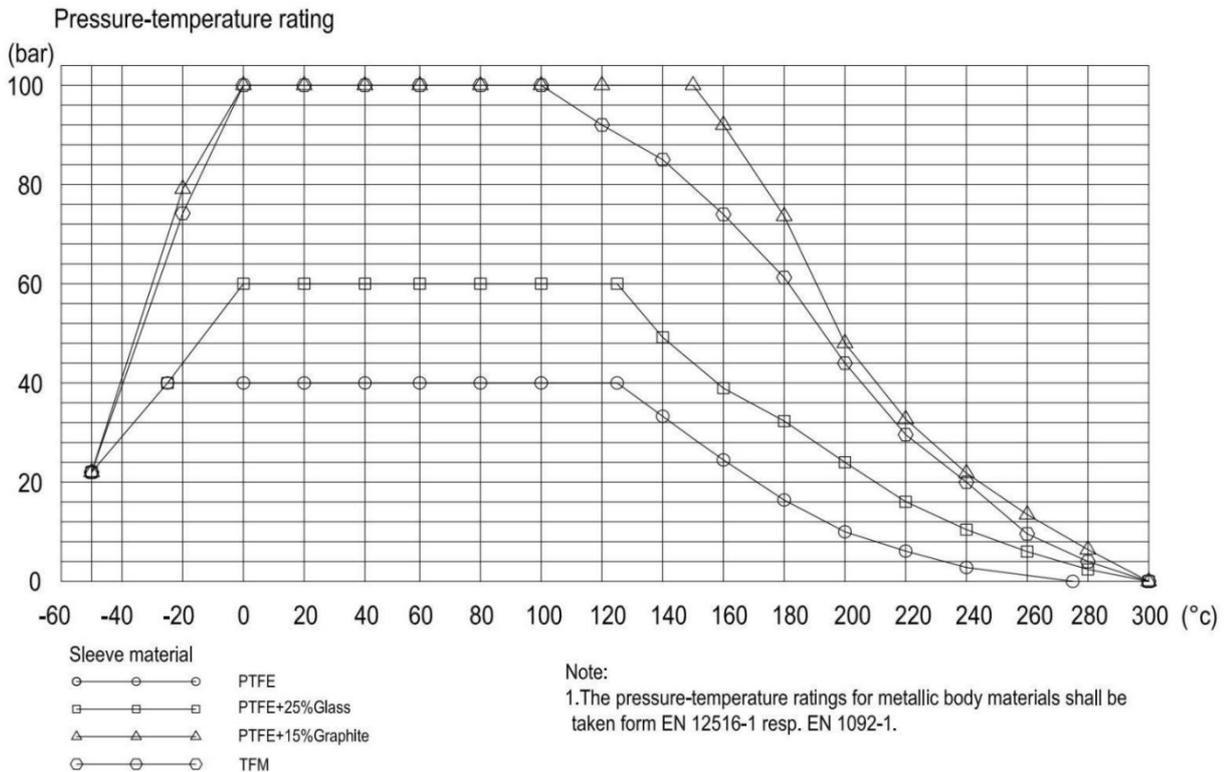
PN (Class)	DN (Size)	L	W	H≈	DIN EN ISO 5211	H1≈	H2	Stem end		Weight KG
								D	SW	
PN16-40	100	350	780	215	F10	42	21	35.8	21	30.0
	80	310	620	194	F10	39	19	29.8	19	23.5
	50	230	480	174	F07	38	19	29.8	19	13.0
	40	200	480	152	F07	34	17	24.0	14	8.5
	25	160	270	155	F05	30	15	18.0	14	4.5
	20	150	270	124	F04	30	15	11.8	9	4.0
	15	130	270	121	F04	30	15	11.8	9	3.5
150 Lbs	4"	229	780	215	F10	42	21	35.8	21	25.5
	3"	203	620	194	F10	39	19	29.8	19	20.0
	2"	178	480	174	F07	38	19	29.8	19	11.0
	1 1/2"	165	480	152	F07	34	17	24.0	14	7.2
	1"	127	270	155	F05	30	15	18.0	14	3.8
	3/4"	117	270	124	F04	30	15	11.8	9	3.4
	1/2"	108	270	121	F04	30	15	11.8	9	3.0
300 Lbs	4"	305	780	215	F10	42	21	35.8	21	26.8
	3"	282	620	194	F10	39	19	29.8	19	21.0
	2"	216	480	174	F07	38	19	29.8	19	11.6
	1 1/2"	190	480	152	F07	34	17	24.0	14	7.6
	1"	165	270	155	F05	30	15	18.0	14	4.0
	3/4"	152	270	124	F04	30	15	11.8	9	3.6
	1/2"	140	270	121	F04	30	15	11.8	9	3.2

**Dimension list**



PN (Class)	DN (Size)	L	W	H	O	A	DIN EN ISO 5211	Weight KG
PN16-40	600	508	500	1020	180.0	520	F30	625
	500	457	500	910	180.0	520	F30	405
	450	432	500	820	180.0	520	F30	320
	400	406	500	675	137.5	465	F25	255
	350	381	500	610	137.5	465	F25	185
	300	356	500	535	117.5	465	F16	125
	250	330	400	475	117.5	465	F16	88
	200	292	350	385	96.5	350	F16	65
	150	267	320	365	84.0	290	F12	48
150 LBS	125	254	250	265	84.0	290	F12	38
	24"	1067	500	1020	180.0	520	F30	595
	20"	914	500	910	180.0	520	F30	395
	18"	864	500	820	180.0	520	F30	365
	16"	762	500	675	137.5	465	F25	340
	14"	686	500	610	137.5	465	F25	325
	12"	356	500	535	117.5	465	F16	305
	10"	330	400	475	117.5	465	F16	195
	8"	292	350	385	96.5	350	F16	115
	6"	267	320	365	84.0	290	F12	52
300 Lbs	5"	254	250	265	84.0	290	F12	32
	16"	838	500	675	137.5	465	F25	365
	14"	762	500	610	137.5	465	F25	355
	12"	502	500	535	117.5	465	F16	325
	10"	457	400	475	117.5	465	F16	255
	8"	418	350	385	96.5	350	F16	145
	6"	403	320	365	84.0	290	F12	65
5"	325	250	265	84.0	290	F12	40	

**Pressure-temperature rating, Max. & opening torque**



**Max. torque & opening torque**

Size DN	PTFE Sleeve			PTFE+25% Glass Sleeve			PTFE+25% Graphite Sleeve		
	Max.	10 Bar	40 Bar	Max.	10 Bar	40 Bar	Max.	10 Bar	40 Bar
15	120	33	33	120	40	40	120	40	40
20	120	33	33	120	40	40	120	40	40
25	180	60	60	180	70	70	180	70	70
40	260	95	95	260	110	110	260	110	110
50	600	150	150	600	180	180	600	180	180
80	600	220	220	600	260	260	600	260	260
100	900	280	280	900	330	330	900	330	330
125	1200	400	400	1200	460	460	1200	460	460
150	1600	630	630	1600	730	730	1600	730	730
200	2600	960	960	2600	1100	1100	2600	1100	1100
250	3400	1200	1200	3400	1380	1380	3400	1380	1380
300	5500	2080	2080	5500	2390	2390	5500	2390	2390
350	12000	4400	4400	12000	5060	5060	12000	5060	5060
400	12000	4400	4400	12000	5060	5060	12000	5060	5060
450	14000	5120	5120	14000	5890	5890	14000	5890	5890
500	17000	6000	6000	17000	6900	6900	17000	6900	6900
600	17000	6000	6000	17000	6900	6900	17000	6900	6900