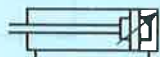


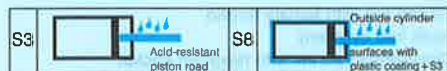
Double acting cylinder

with central trunnion mounting and end position cushioning adjustable at both ends

Type DNNZ-...-PPV-A



Special designs:



Additional components (sheets 1.310, 1.320):



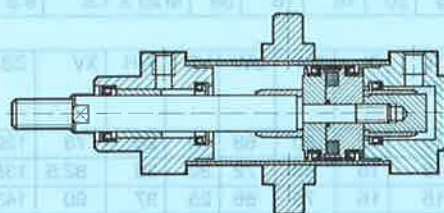
Rod clevis, Type SG



Rod eye, Type SGS



Self-aligning rod coupler, Type FK



Type to be discontinued

Replacement type either DNU-... with ZNU-...

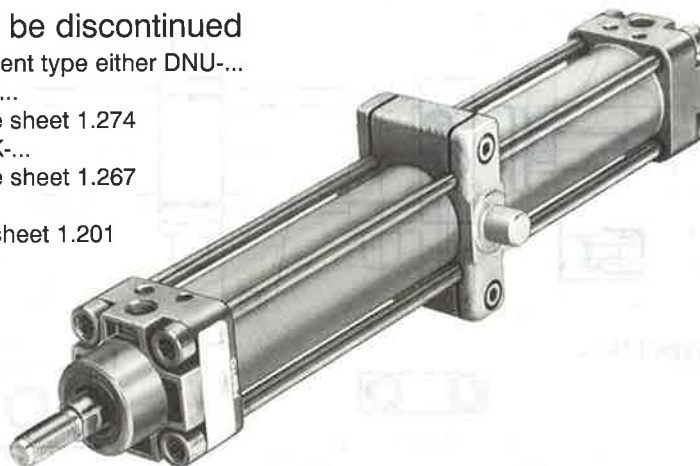
Catalogue sheet 1.274

or DNGZK-...

Catalogue sheet 1.267

Note:

Observe sheet 1.201



4

This cylinder series meets the specifications of ISO 6431 and, apart from the central trunnion mounting, those of DIN 24335 (VDMA) and CETOP RP 43 P.

The trunnion flange is mounted on the tie rods and can be moved within a certain range.

There is a permanent magnet on the cylinder piston, the magnetic field of which actuates reed switches.

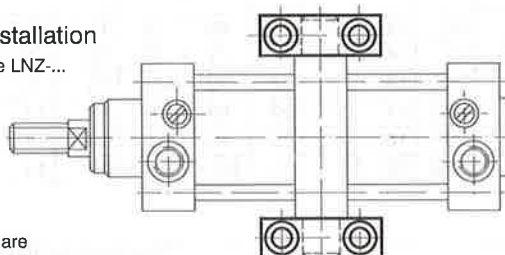
One or more reed switches can be fastened to the tie rods on the cylinder. The switches permit proximity sensing of the end positions or intermediate positions of the cylinder.

The reed switches with pneumatic or electrical output signals have identical dimensions and can be combined on the tie rods.

For magnetically actuated reed switches see sheet 1.350.

Possible installation

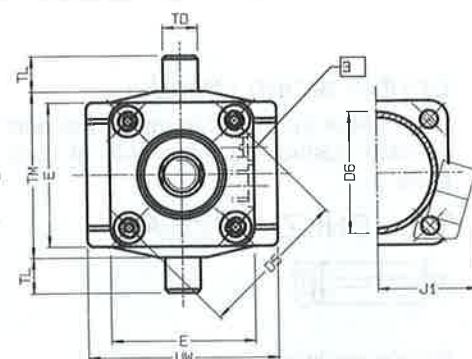
Trunnion, Type LNZ-...



The trunnions are supplied in pairs

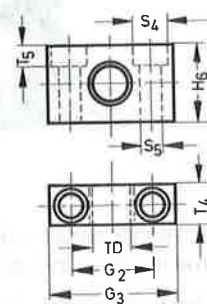
Order code (see overleaf)			Part No. + DNNZ + piston dia. + stroke length + end position cushioning + sensing <i>Example: piston dia. 80 mm, stroke length 200 mm, adjustable end position cushioning = 10 597 DNNZ-80-200-PPV-A</i>				
Medium			Compressed air, filtered (lubricated or unlubricated)				
Design			Piston cylinder with magnetic piston				
Max. permissible operating pressure			12 bar				
Temperature range			– 20 to +80 °C (observe range of application of reed switches)				
Material			Bearing cap and cover cap: cast aluminium, painted; swivel flange: cast steel; cylinder barrel: brass, painted; piston rod: X 20 Cr 13, rolled thread; seals: Perbunan				
Weights			See overleaf				
Piston dia. mm	Standard stroke length		Stroke lengths** min. – max.	Thrust at 6 bar N (≈ kp)	Return force at 6 bar N (≈ kp)	Connection	Cushioning length mm
32	40*	50* 80	1 to 2000	450 (45)	380 (38)	G 1/8	19
40	100	125 160	1 to 2000	710 (71)	590 (59)	G 1/4	21
50	200	250 300	1 to 2000	1130 (113)	940 (94)	G 1/4	23
63	320	400 500	1 to 2000	1800 (180)	1610 (161)	G 3/8	23
80			1 to 2000	2900 (290)	2610 (261)	G 3/8	30
100			1 to 2000	4550 (455)	4260 (426)	G 1/2	30

* Not at Piston dia. 80, 100 mm, ** Stroke tolerances as per DIN ± 1.3 mm

[illegible]

Type LNZ-...

Technical drawing of a Type LNZ-... hydraulic cylinder. The drawing shows a side view of the cylinder with a piston rod extending from the left. The cylinder body has two main sections: a larger front section and a smaller rear section. The piston rod is threaded and has a hexagonal nut at the end. The cylinder body has two sets of mounting brackets, one on the front and one on the rear. The mounting brackets are rectangular with two circular holes each. Dimension lines indicate the overall length of the cylinder as C_1 and the length of the rear section as C_2 .



- 1 Tie rod nut with female thread
(built into cylinder)
Cheesehead screw with hexagon socket
head (included with mounting attachments)
- 2 Reed switch
Type SMPO-1.... pneumatic output signal
Type SMEO-1.... electrical output signal
- 3 Regulating screw for adjustable end position cushioning
+ = Plus stroke length
+ = Plus half stroke length

Piston dia. mm	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉	L ₁₀	S ₄ dia.	S ₅ dia.	SW ₂	T ₄	T ₅	TD dia.	TL	TM	UW	VD	WH	XV	ZB
32	76	4	26	14	12	—	66	80	11	6.6	10	15	6.8	12	12	50	68	16	26	73	120
40	81	5.5	24	14	6	—	71	94	15	9	13	18	9	16	16	63	72	20	30	82.5	135
50	82	5	24	14	4	17	79	101	15	9	17	18	9	16	16	75	86	25	37	90	143
63	87	6	28.5	17	—	20	88	107	18	11	17	20	11	20	20	90	98	28	40	97.5	155
80	96	6	28	16	—	23	98	122	18	11	22	20	11	20	20	110	110	34	48	110	172
100	101	7	32.5	16	—	23	108.5	131.5	20	14	22	25	13	25	25	132	136	40	53	120	187

Basic cylinder kg			Trunnion kg (2 trunnions)/materials	Mounting kit	for proximity switches
Piston dia. mm	Basic weight Steel barrel design	Weight per 10 mm of stroke	Type LNZ-... Anodized aluminium with DU friction bearing	Piston dia. mm	Order code, Part No./Type
32			0.090	32, 40, 50	11887 SMB-2
40	1.200	0.060	0.145		
50	2.080	0.074			
63			0.190	63, 80, 100	11888 SMB-3
80	4.800	0.106			
100			0.340		

Order code						Order code						Order code					
Part No.	Type	Piston dia.	Stroke	End position cushioning	Special design	Part No.	Type	Piston dia.	Stroke	End position cushioning	Special design	Part No.	Type	Piston dia.	Stroke	End position cushioning	Special design
32485	DNNZ-32-	40-	PPV-A			32496	DNNZ-40-	40-	PPV-A			32507	DNNZ-50-	40-	PPV-A		
32486	DNNZ-32-	50-	PPV-A			32497	DNNZ-40-	50-	PPV-A			32508	DNNZ-50-	50-	PPV-A		
32487	DNNZ-32-	80-	PPV-A			32498	DNNZ-40-	80-	PPV-A			32509	DNNZ-50-	80-	PPV-A		
32488	DNNZ-32-	100-	PPV-A			32499	DNNZ-40-	100-	PPV-A			32510	DNNZ-50-	100-	PPV-A		
32489	DNNZ-32-	125-	PPV-A			32500	DNNZ-40-	125-	PPV-A			32511	DNNZ-50-	125-	PPV-A		
32490	DNNZ-32-	160-	PPV-A			32501	DNNZ-40-	160-	PPV-A			32512	DNNZ-50-	160-	PPV-A		
32491	DNNZ-32-	200-	PPV-A			32502	DNNZ-40-	200-	PPV-A			32513	DNNZ-50-	200-	PPV-A		
32492	DNNZ-32-	250-	PPV-A			32503	DNNZ-40-	250-	PPV-A			32514	DNNZ-50-	250-	PPV-A		
32493	DNNZ-32-	300-	PPV-A			32504	DNNZ-40-	300-	PPV-A			32515	DNNZ-50-	300-	PPV-A		
34728	DNNZ-32-	320-	PPV-A			34729	DNNZ-40-	320-	PPV-A			34730	DNNZ-50-	320-	PPV-A		
32494	DNNZ-32-	400-	PPV-A			32505	DNNZ-40-	400-	PPV-A			32516	DNNZ-50-	400-	PPV-A		
32495	DNNZ-32-	500-	PPV-A			32506	DNNZ-40-	500-	PPV-A			32517	DNNZ-50-	500-	PPV-A		
10593	DNNZ-32-	...	PPV-A			10594	DNNZ-40-	...	PPV-A			10595	DNNZ-50-	...	PPV-A		
	DNNZ-32-	...	PPV-A		-S...		DNNZ-40-	...	PPV-A		-S...		DNNZ-50-	...	PPV-A		-S...
Trunnion						Trunnion						Trunnion					
6184	LNZ	-32				6185	LNZ	-40/50				6185	LNZ	-40/50			
32518	DNNZ-63-	40-	PPV-A			32529	DNNZ-80-	50-	PPV-A			32539	DNNZ-100-	50-	PPV-A		
32519	DNNZ-63-	50-	PPV-A			32530	DNNZ-80-	80-	PPV-A			32540	DNNZ-100-	80-	PPV-A		
32520	DNNZ-63-	80-	PPV-A			32531	DNNZ-80-	100-	PPV-A			32541	DNNZ-100-	100-	PPV-A		
32521	DNNZ-63-	100-	PPV-A			32532	DNNZ-80-	125-	PPV-A			32542	DNNZ-100-	125-	PPV-A		
32522	DNNZ-63-	125-	PPV-A			32533	DNNZ-80-	160-	PPV-A			32543	DNNZ-100-	160-	PPV-A		
32523	DNNZ-63-	160-	PPV-A			32534	DNNZ-80-	200-	PPV-A			32544	DNNZ-100-	200-	PPV-A		
32524	DNNZ-63-	200-	PPV-A			32535	DNNZ-80-	250-	PPV-A			32545	DNNZ-100-	250-	PPV-A		
32525	DNNZ-63-	250-	PPV-A			32536	DNNZ-80-	300-	PPV-A			32546	DNNZ-100-	300-	PPV-A		
32526	DNNZ-63-	300-	PPV-A			34732	DNNZ-80-	320-	PPV-A			34733	DNNZ-100-	320-	PPV-A		
34731	DNNZ-63-	320-	PPV-A			32537	DNNZ-80-	400-	PPV-A			32547	DNNZ-100-	400-	PPV-A		
32527	DNNZ-63-	400-	PPV-A			32538	DNNZ-80-	500-	PPV-A			32548	DNNZ-100-	500-	PPV-A		
32528	DNNZ-63-	500-	PPV-A			10597	DNNZ-80-	...	PPV-A			10598	DNNZ-100-	...	PPV-A		
10596	DNNZ-63-	...	PPV-A				DNNZ-80-	...	PPV-A		-S...		DNNZ-100-	...	PPV-A		-S...
	DNNZ-63-	...	PPV-A		-S...												
Trunnion						Trunnion						Trunnion					
6186	LNZ	-63/80				6186	LNZ	-63/80				6187	LNZ	-100/125			

Double acting cylinder

with central trunnion mounting and end position cushioning adjustable at both ends

Type DNNZ-...-PPV



Special designs:

S3		S7	
S5		S8	
S6			

S 5 and S 6 only available with steel barrel.

The special design can be combined.

Additional components (sheets 1.310, 1.320):



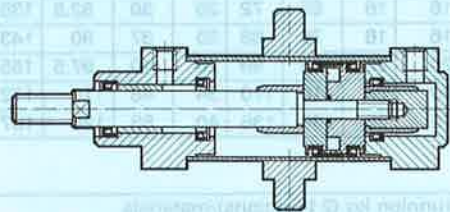
Rod clevis, Type SG



Rod eye, Type SGS



Self-aligning rod coupler, Type FK



Type to be discontinued

Replacement type either DNU-... with ZNU-...

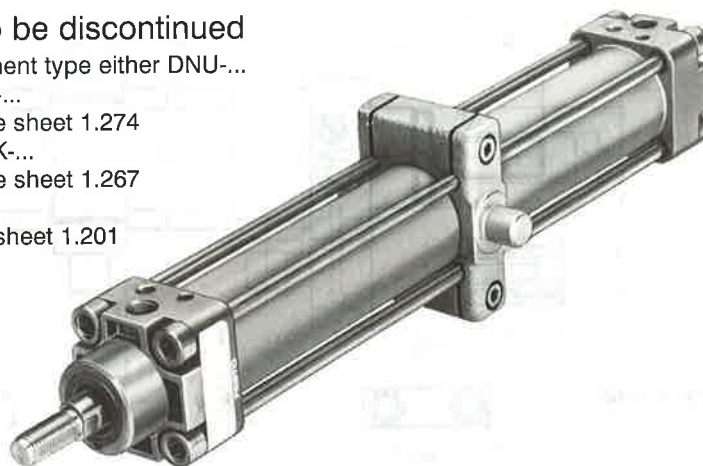
Catalogue sheet 1.274

or DNGZK-...

Catalogue sheet 1.267

Note:

Observe sheet 1.201



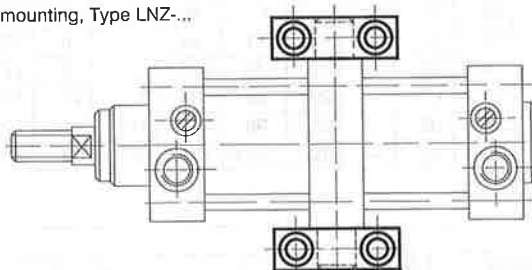
4

This cylinder series meets the specifications of ISO 6431 and, apart from the central trunnion mounting, those of DIN 24335 (VDMA) and CETOP RP 43 P.

The trunnion flange is mounted on the tie rods and can be moved within a certain range.

Possible installation

Trunnion mounting, Type LNZ-...

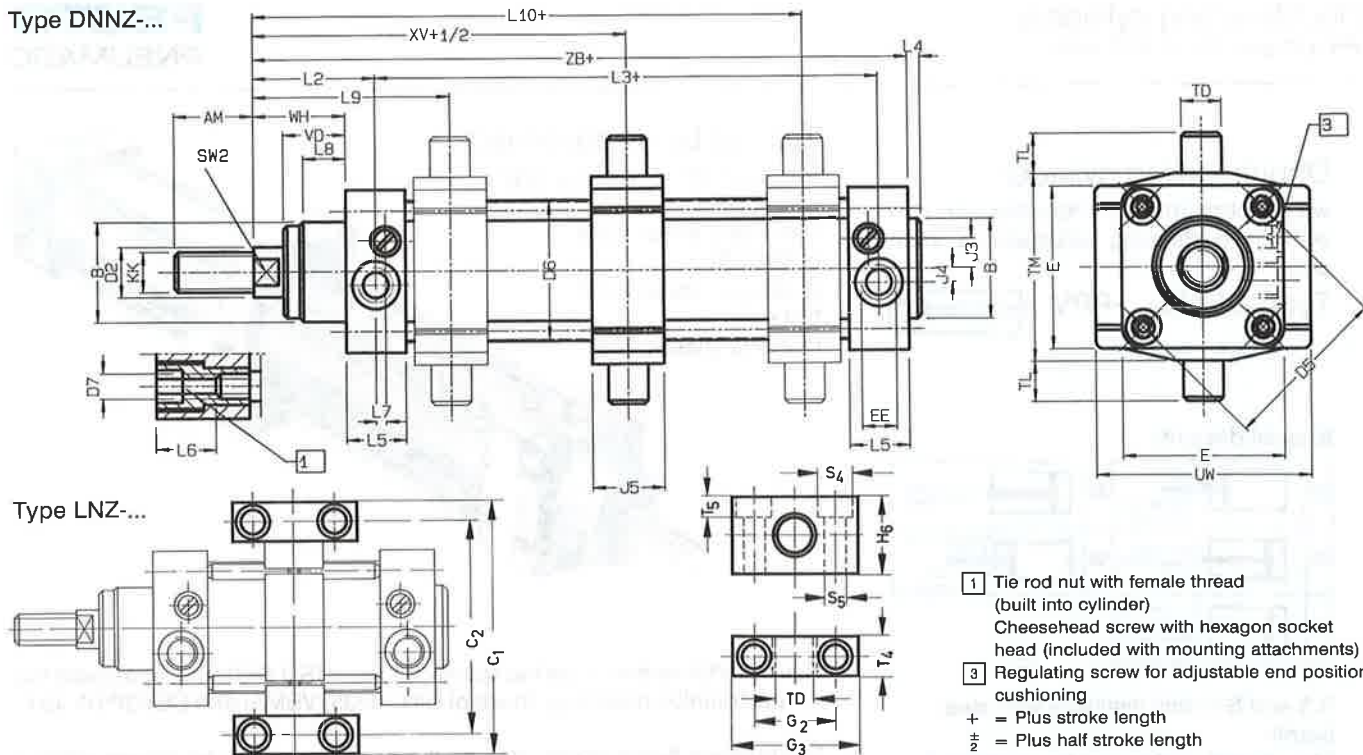


The trunnions are supplied in pairs

Order code (see overleaf)			Part No. + DNNZ + piston dia. + stroke length + end position cushioning Example: piston dia. 80 mm, stroke length 160 mm, adjustable end position cushioning = 10 614 DNNZ-80-160-PPV-A				
Medium			Compressed air, filtered (lubricated or unlubricated)				
Design			Piston cylinder				
Max. permissible operating pressure			12 bar				
Temperature range			- 20 to + 80 °C				
Materials			Bearing cap and cover cap: die-cast aluminium, painted; swivel flange: cast steel; cylinder barrel: precision steel; piston rod: X 20 Cr 13, rolled thread; seals: Perbunan				
Weights			See overleaf				
Piston dia. mm	Standard stroke length		Stroke lengths* min. – max.	Thrust at 6 bar N (≈ kp)	Return force at 6 bar N (≈ kp)	Connection	Cushioning length mm
32	25	40 50	1 to 2000	450 (45)	380 (38)	G 1/8	19
40	80	100 125	1 to 2000	710 (71)	590 (59)	G 1/4	21
50	160	200 250	1 to 2000	1130 (113)	940 (94)	G 1/4	23
63	300	320	1 to 2000	1800 (180)	1610 (161)	G 3/8	23
80	400	500	1 to 2000	2900 (290)	2610 (261)	G 3/8	30
100			1 to 2000	4550 (455)	4260 (426)	G 1/2	30

* Stroke tolerances as per DIN ± 1.3 mm

Type DNNZ-...



Piston dia. mm	AM	B f ₈ dia.	C ₁	C ₂	D ₂ f ₈ dia.	D ₅ dia.	D ₆ dia.	D ₇	E	EE	G ₂	G ₃	H ₆	J ₃	J ₄	J ₅	KK	L ₂
32	20	30	80	65	12	46	37	M 5	45	G ¹ / ₈	36	50	25	7	—	21	M10 × 1.25	35
40	24	35	99	81	16	56	45	M 5	54	G ¹ / ₄	36	55	36	9	4.5	26	M12 × 1.25	42
50	32	40	111	93	20	68	55	M 6	65	G ¹ / ₄	36	55	36	12	5.5	29	M16 × 1.5	49
63	32	42	130	110	20	84	68	M 6	80	G ³ / ₈	42	65	40	13	13	31	M16 × 1.5	54
80	40	48	150	130	25	100	86	M 8	96	G ³ / ₈	42	65	40	17	16	33	M20 × 1.5	62
100	40	52	182	157	25	132	110	M 8	126	G ¹ / ₂	50	75	50	16	16	39	M20 × 1.5	69.5

Piston dia. mm	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉	L ₁₀	S ₄ dia.	S ₅ dia.	SW ₂	T ₄	T ₅	TD dia.	TL	TM	UW	VD	WH	XV	ZB
32	76	4	26	14	12	—	66	80	11	6.6	10	15	6.8	12	12	50	68	16	26	73	120
40	81	5.5	24	14	6	—	71	94	15	9	13	18	9	16	16	63	72	20	30	82.5	135
50	82	5	24	14	4	17	79	101	15	9	17	18	9	16	16	75	86	25	37	90	143
63	87	6	28.5	17	—	20	88	107	18	11	17	20	11	20	20	90	98	28	40	97.5	155
80	96	6	28	16	—	23	98	122	18	11	22	20	11	20	20	110	110	34	48	110	172
100	101	7	32.5	16	—	23	108.5	131.5	20	14	22	25	13	25	25	132	136	40	53	120	187

Weights

Basic cylinder kg				Trunnion kg (2 trunnions)/materials
Piston dia. mm	Basic weight	Weight per 10 mm of stroke		Type LNZ-...
	Steel barrel design			Anodized aluminium with DU friction bearing
32	1.075	0.034		0.090
40	1.620	0.046		0.145
50	2.510	0.061		
63	3.620	0.070		0.190
80	4.790	0.106		
100	9.560	0.180		0.340

Order code						Order code						Order code					
Part No.	Type	Piston dia.	Stroke	End position cushioning	Special design	Part No.	Type	Piston dia.	Stroke	End position cushioning	Special design	Part No.	Type	Piston dia.	Stroke	End position cushioning	Special design
32365	DNNZ-32-		25-	PPV		32377	DNNZ-40-		25-	PPV		32389	DNNZ-50-		25-	PPV	
32366	DNNZ-32-		40-	PPV		32378	DNNZ-40-		40-	PPV		32390	DNNZ-50-		40-	PPV	
32367	DNNZ-32-		50-	PPV		32379	DNNZ-40-		50-	PPV		32391	DNNZ-50-		50-	PPV	
32368	DNNZ-32-		80-	PPV		32380	DNNZ-40-		80-	PPV		32392	DNNZ-50-		80-	PPV	
32369	DNNZ-32-		100-	PPV		32381	DNNZ-40-		100-	PPV		32393	DNNZ-50-		100-	PPV	
32370	DNNZ-32-		125-	PPV		32382	DNNZ-40-		125-	PPV		32394	DNNZ-50-		125-	PPV	
32371	DNNZ-32-		160-	PPV		32383	DNNZ-40-		160-	PPV		32395	DNNZ-50-		160-	PPV	
32372	DNNZ-32-		200-	PPV		32384	DNNZ-40-		200-	PPV		32396	DNNZ-50-		200-	PPV	
32373	DNNZ-32-		250-	PPV		32385	DNNZ-40-		250-	PPV		32397	DNNZ-50-		250-	PPV	
32374	DNNZ-32-		300-	PPV		32386	DNNZ-40-		300-	PPV		32398	DNNZ-50-		300-	PPV	
34722	DNNZ-32-		320-	PPV		34723	DNNZ-40-		320-	PPV		34724	DNNZ-50-		320-	PPV	
32375	DNNZ-32-		400-	PPV		32387	DNNZ-40-		400-	PPV		32399	DNNZ-50-		400-	PPV	
32376	DNNZ-32-		500-	PPV		32388	DNNZ-40-		500-	PPV		32400	DNNZ-50-		500-	PPV	
10610	DNNZ-32-		...-	PPV		10611	DNNZ-40-		...-	PPV		10612	DNNZ-50-		...-	PPV	
	DNNZ-32-		...-	PPV	-S...		DNNZ-40-		...-	PPV	-S...		DNNZ-50-		...-	PPV	-S...
Trunnion						Trunnion						Trunnion					
6184	LNZ	-32				6185	LNZ	-40/50				6184	LNZ	-40/50			
32401	DNNZ-63-		25-	PPV		32413	DNNZ-80-		25-	PPV		32425	DNNZ-100-		25-	PPV	
32402	DNNZ-63-		40-	PPV		32414	DNNZ-80-		40-	PPV		32426	DNNZ-100-		40-	PPV	
32403	DNNZ-63-		50-	PPV		32415	DNNZ-80-		50-	PPV		32427	DNNZ-100-		50-	PPV	
32404	DNNZ-63-		80-	PPV		32416	DNNZ-80-		80-	PPV		32428	DNNZ-100-		80-	PPV	
32405	DNNZ-63-		100-	PPV		32417	DNNZ-80-		100-	PPV		32429	DNNZ-100-		100-	PPV	
32406	DNNZ-63-		125-	PPV		32418	DNNZ-80-		125-	PPV		32430	DNNZ-100-		125-	PPV	
32407	DNNZ-63-		160-	PPV		32419	DNNZ-80-		160-	PPV		32431	DNNZ-100-		160-	PPV	
32408	DNNZ-63-		200-	PPV		32420	DNNZ-80-		200-	PPV		32432	DNNZ-100-		200-	PPV	
32409	DNNZ-63-		250-	PPV		32421	DNNZ-80-		250-	PPV		32433	DNNZ-100-		250-	PPV	
32410	DNNZ-63-		300-	PPV		32422	DNNZ-80-		300-	PPV		32434	DNNZ-100-		300-	PPV	
34725	DNNZ-63-		320-	PPV		34726	DNNZ-80-		320-	PPV		34727	DNNZ-100-		320-	PPV	
32411	DNNZ-63-		400-	PPV		32423	DNNZ-80-		400-	PPV		32435	DNNZ-100-		400-	PPV	
32412	DNNZ-63-		500-	PPV		32424	DNNZ-80-		500-	PPV		32436	DNNZ-100-		500-	PPV	
10613	DNNZ-63-		...-	PPV		10614	DNNZ-80-		...-	PPV		10615	DNNZ-100-		...-	PPV	
	DNNZ-63-		...-	PPV	-S...		DNNZ-80-		...-	PPV	-S...		DNNZ-100-		...-	PPV	-S...
Trunnion						Trunnion						Trunnion					
6186	LNZ	-63/80				6186	LNZ	-63/80				6187	LNZ	-100/125			

