



Product specifications Heavy Duty cylinders 70 og 90 series



Heavy Duty cylinders

Side-Power Heavy Duty cylinders are the best alternative to solve the negative experiences with mechanical steering, giving a lot more precision and comfort handling your craft. Choosing Side-Power Steering solutions will also increase your safety on board!

The Side-Power hydraulic Steering series is manufactured taking advantage of experiences gained through years of volume production, resulting in very cost efficient, high quality products.

With the Side-Power Steering series you get all the important and unique Side-Power features and qualities - why settle for less.



Declaration of Conformity

We, Sleipner Motor AS hereby Declare that following Side-Power Hydraulic Steering products complies with the EC Directives and Standards:

94/25 Recreational Craft Directive 2006/42 Machinery Safety IMO - SOLAS Regulations		CE
DNV/GL	DNV Standard for Certification 2.9, 5-778.93 Approval of hydraulic cylinders	
DNV/GL	Det Norske Veritas' Rules for Classification of Ships Pt.4, Ch.6 "Piping Systems"	
Type Approval		
DNV/GL	DNV Classification of Ships & HSLC Pt.4 Ch. 6 "Piping Systems"	P-15120
RINA	Rules for Classification of Yachts Design for Commercial Use, Pt C, Ch 1, Sec 10	File No.: (XU/2014/ XU/01/358)

FREDRIKSTAD, 26th of January 2016

Arne K Skauen
Managing Director, Sleipner Motor AS

Construction and key features

- Piston rod construction.
 - Service friendly and stable construction.
- 3 sets of ports
 - Shock valve and by-pass valves can be mounted on individual ports.
 - Ports can be chosen for optimal tubing system.
- Roll- polished seamless cylinder pipes
 - Precision pipes give long lifetime and perfect seal against the gaskets.
- Stainless chromed piston rods
- Teflon sealings
 - Soft operations and long lifetime.
- Twin rod sealings + scraper/whiper seal.
 - Increased safety, long lifetime.

Highly dimensioned rotating band

- Absorb side forces without unnecessary wear on gaskets and Guild surfaces.
- Type approved
 - DNV-GL
 - Rina

In addition to standard product sortiment shown on next page, can cylinders be delivered with following maximum cylinder strokes:

Series	Art. nr	K - cylinder stroke
70	6525-xxx-7-xx	305
	9032-xxx-7-xx	350
90	6530-xxx-9-xx	350
	8032-xxx-9-xx	350
	9032-xxx-9-xx	305



Confidence by Control

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Technical specifications

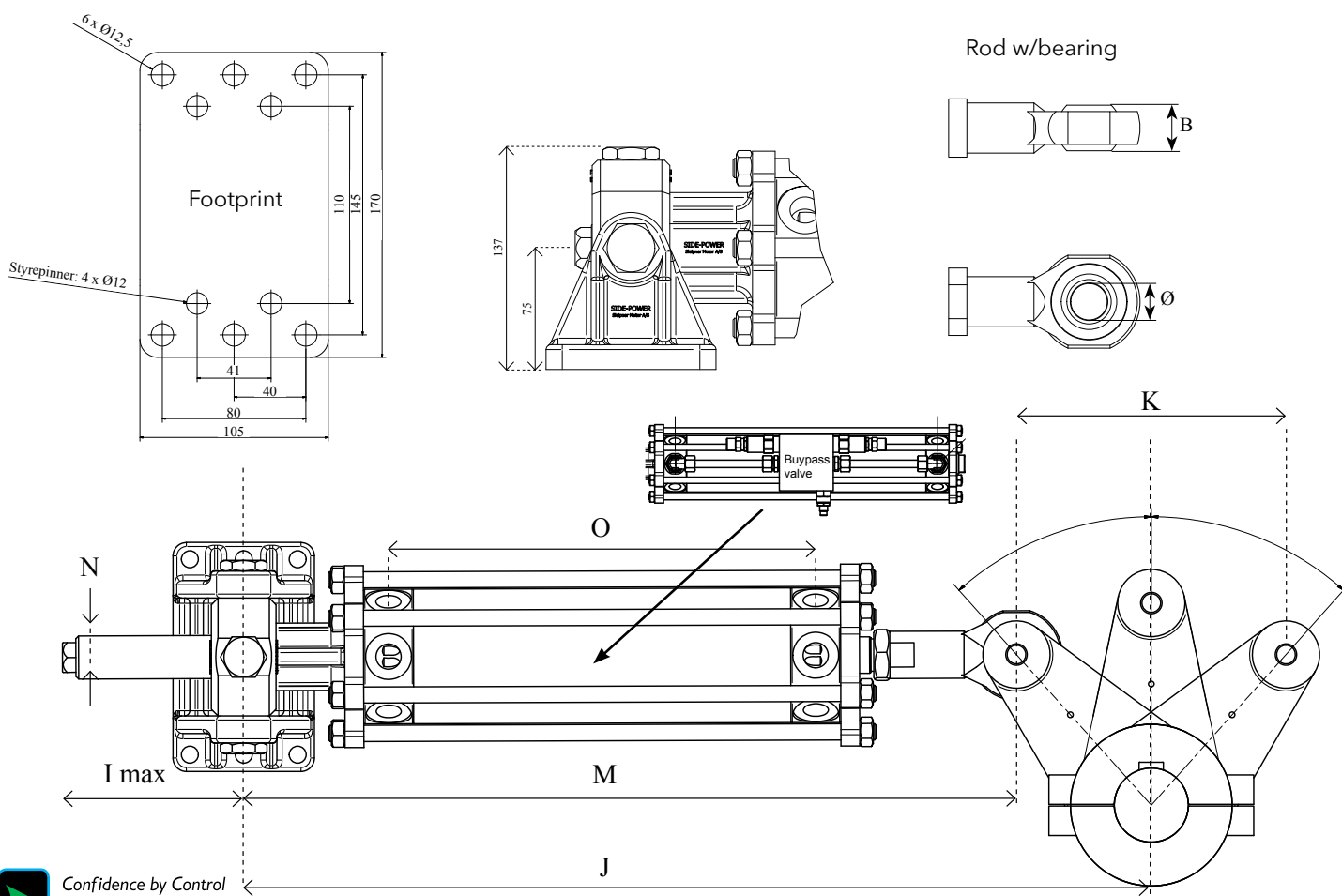
Series	Art.nr	Volume cm ³	K Cylinder stroke	Max pressure	Cylinder force @ max working pressure N	Hose diameter	I max	J	Rod w/bearing		M	N	O
									Ømm	Bmm			
70	6525-200-7-10	565	200	70 bar	19000N	1/2"	148	645	ø16	21	545	25	308
	6525-200-7-11	565	200	70 bar	19000N	1/2"	148	657	ø20	25	557	25	308
	9032-200-7-10	1111	200	70 bar	32000N	1/2"	135	656	ø20	25	556	32	317
	9032-200-7-20**	1111	200	70 bar	32000N	1/2"	135	656	ø20	25	556	32	317
90	6530-200-9-10	522	200	90 bar	22600N	1/2"	148	656	ø20	25	556	30	308
	8032-200-9-10	844	200	90 bar	36500N	1/2"	137	674	ø25	20	574	32	313
	9032-200-9-10	1111	200	90 bar	48000N	1/2"	135	674	ø25	20	574	32	317

* Hoses / pipes must be dimensioned depending on the installation and if the system will be operated by steering pump. Port Dimension: 1/2 "BSP. All cylinders are available with shock valve or ball valve / bypass valve.

* Includes bypass and shock valve.

Cylinder Art.nr	Number of turns with pump volume	
	43m ³	70cm ³
6525-200-xx	13,1	8,1
6530-200-xx	12,1	7,5
8032-200-xx	-	12,0
9032-200-xx	-	16,0
9032-200-xx	-	16,0

Measurements





Material specifications

Component	Material:	Delivery Standard
Foot bracket	CC 333G	Casted parts
Swivel	CC 333G	Casted parts
End cap - foot end	CC 333G	Casted parts
Shoulder bolt	EN 1.4460/SS 2324	EN 10088-3
Cylinder tube	SS 2172	EN 10305-1
Cylinder gland	CuZn39Pb3	DIN EN 12164
End cap	CuZn39Pb3	DIN EN 12164
Tie rod	EN 1.4460/SS 2324	EN 10088-3
Tie rod, alternative material	EN 1.4418	EN 10088-3
Piston	EN 355 520M	EN 10025-3
Piston rod	EN 1.4418	EN 10088-3
Rod end Spherical Ø16 og Ø20	C35N/1.0501	"ISO 12240-4 ISO 965-1 ISO 12240-1"
Rod end Spherical Ø25	C45V/1.0503	"ISO 12240-4 ISO 965-1 ISO 12240-1"
Nuts	A4	DIN 934

*See material declarations

Maintenance

- Make sure to check all hose and connections for leakages
- Check hoses / tubes for damages (can be caused by sharp edges, hot surfaces etc). And that they are fastened and secured.
- Ensure that bearings and joints are greased and free to rotate / move properly.
- Ensure to check the wear of the rod w/bearing.

Health and safety

- Transport Information: Cylinders are shipped without hydraulic oil - no hazard.
- Installation and use: The cylinders must be installed and operated by qualified personell only according to applicable rules and standards.
- Fire and safety precautions: Hydraulic oil is flammable, and appropriate measures must be taken.
- Avoid long term contact with mineral based oils. See product data sheet for more information.

Spare parts

			Rod w/bearing	Gasket kit
Series	Type	Ø	Art. nr	Art. nr
70	6525	ø16	73053	6525-S
	6525	ø20	73054	6525-S
	9032	ø20	73054	9032-S
90	6530	ø20	73054	6530-S
	8032	ø25	73055	8032-S
	9032	ø25	73055	9032-S

This document may contain typographical errors, to which Sleipner Motor assumes no responsibility.



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Product specification - Hydraulic Steering

Hydraulic Steering v1_0_3_2106