

Clamping unit  
Single acting  
Clamping force at 6 bar: 2,4 to 18 kN

**Single acting pneumatic unit with  
integrated hydraulic intensifiers**

**Principle offers high forces compared  
to usual pneumatic units**

**Round, compact design**

**All materials are corrosion resistant**



### Technical Data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Single Acting

Models:

LSE – Standard

LSE H – High pressure version

Operating Pressure:

LSE: 4 to 10 bar

LSE H: 4 to 7 bar

Operating Temperature:

+10°C to +80°C max.

Position of Installation:

Optional

External Thread:

M36x1.5; M48x1.5; M60x2

Clamping force at 6 bar:

2.4 to 18 kN, depending on external thread and model

Strokes:

3 to 12 mm, depending on external thread and model

### Materials:

Barrel: Steel, chemically nickel plated

Clamping piston: Steel, hardened

Cover: Steel, zinc coated

Locking nuts: Steel, zinc coated

Seals: Perbunan / Polyurethane

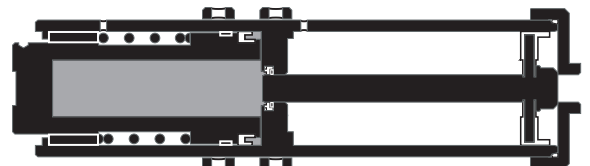
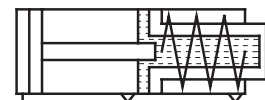
Filling: Hydraulic oil, ISO VG 1000

### Ordering example

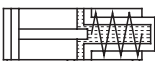
See page 3

### Mountings and accessories

See page 3



## Clamping unit variants

Symbol	Model	Description	Dimensions see page
	LSE	Standard version	4
	LSE H	High pressure version	4

### Model codes standard version

Series	Substitute
Standard version	LSE
Threads	Substitute
M36x1,5	36
M48x1,5	48
M60x2	60
Strokes	Substitute
3 mm	3
6 mm	6
9 mm	9
12 mm	12*

\* For threads  $\geq$  M48x1,5

### Model codes high pressure version

Series	Substitute
Hochdruckversion	LSE H
Threads	Substitute
M48x1,5	48
M60x2	60
Strokes	Substitute
3 mm	3
6 mm	6**

\*\* For thread M60x2 only

## Order numbers • Clamping forces • Operating pressure • Air consumption

Thread	Stroke (mm)	Clamping force at 6 bar (kN)	Operating pressure (bar)	Air consumption per stroke at 6 bar (l/cm stroke)	Model	Order-No.
M36x1,5	3	2,4	4 ... 10	0,09	LSE 363	43 941 20
	6	2,5	4 ... 10	0,16	LSE 366	43 941 21
	9	2,6	4 ... 10	0,24	LSE 369	43 941 22
M48x1,5	3	5,6	4 ... 10	0,22	LSE 483	43 942 20
	6	5,6	4 ... 10	0,31	LSE 486	43 942 22
	9	5,8	4 ... 10	0,54	LSE 489	43 942 23
	12	5,8	4 ... 10	0,70	LSE 4812	43 942 24
M60x2	3	11,0	4 ... 10	0,47	LSE 603	43 943 20
	6	12,0	4 ... 10	0,78	LSE 606	43 943 22
	9	12,0	4 ... 10	1,21	LSE 609	43 943 24
	12	12,0	4 ... 10	1,49	LSE 6012	43 943 25
<b>High pressure version</b>						
M48x1,5	3	10,0	4 ... 7	0,38	LSE H 483	43 942 45
M60x2	3	18,0	4 ... 7	0,67	LSE H 603	43 943 35
	6	18,0	4 ... 7	1,18	LSE H 606	43 943 36

## Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical Data'.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.





Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

**System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.**

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

## Mountings and accessories

	Bracket, horizontal 	Clamping head 	Spherical clamping head 	V-grooved clamping head 
Clamping unit thread	Page 04 Order-No.	Page 05 Order-No.	Page 05 Order-No.	Page 05 Order-No.
M36x1,5	43 941 50	43 941 55	43 941 56	43 941 57
M48x1,5	43 942 50	43 942 55	43 942 56	43 942 57
M60x2	43 943 50	43 943 55	43 943 56	43 943 57

## Materials of Mountings and accessories

Bracket, horizontal: Aluminium, anodized

Clamping heads: Steel, hardened

## Ordering examples

### Clamping Units

To order a standard Clamping Unit with Clamping force 5,8 kN (thread M48x1.5) and stroke 9 mm quote:

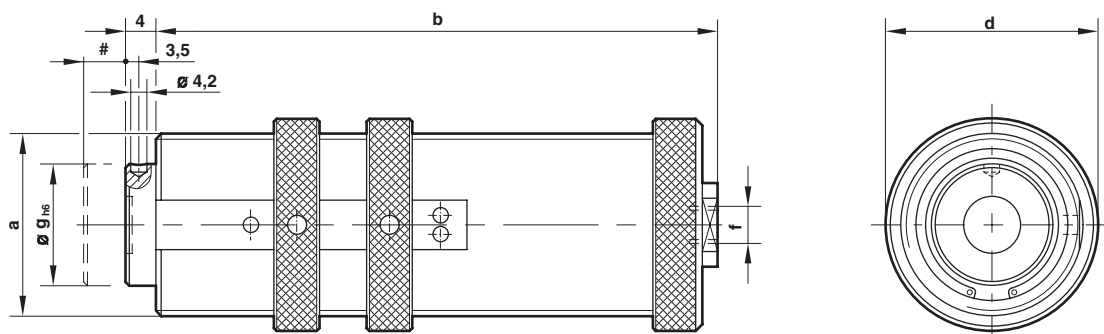
**LSE 489, Order No. 43 942 23**

### Mountings and Accessories

To order a spherical clamping head for a Unit with thread M48x1.5 quote: **spherical clamping head, Order No. 43 942 56**

## Basic dimensions

### Standard and high pressure version

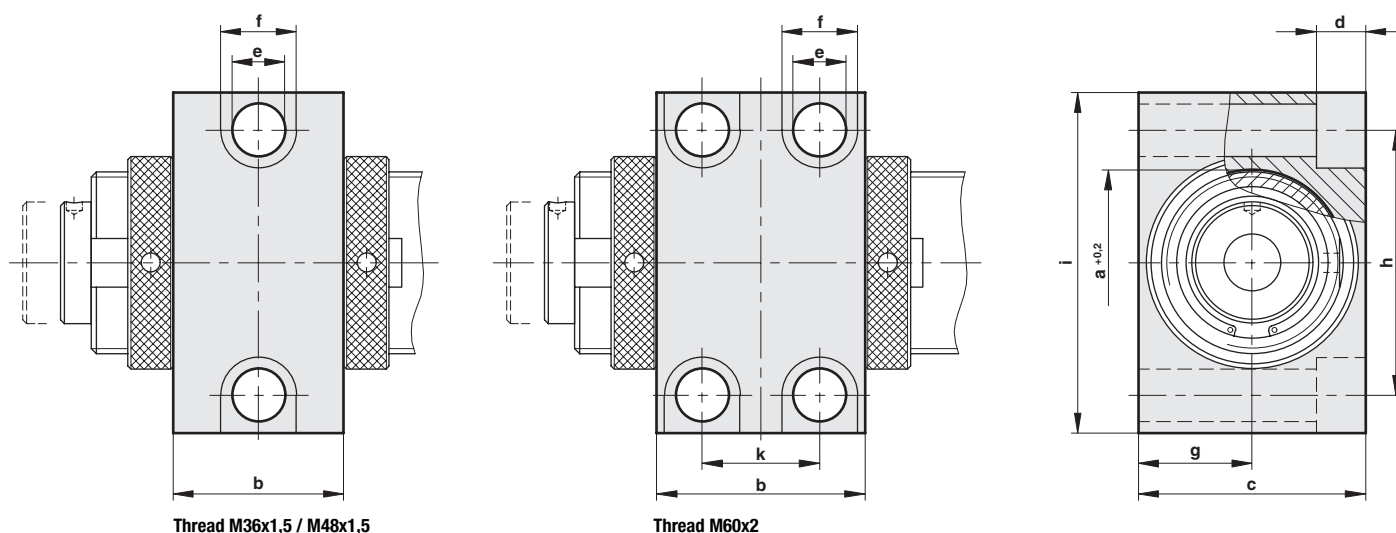


#	Stroke
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Model	Order No.	Stroke (mm)	a	b	Ø d	f	Ø gh 6	Weight
LSE 363	43 941 20	3	M36x1,5	98,0	42	G 1/8	22	0,58 kg
LSE 366	43 941 21	6		127,5	42	G 1/8	22	0,68 kg
LSE 369	43 941 22	9		184,5	42	G 1/8	22	0,91 kg
LSE 483	43 942 20	3	M48x1,5	111,0	56	G 1/8	32	1,08 kg
LSE 486	43 942 22	6		148,0	56	G 1/8	32	1,34 kg
LSE 489	43 942 23	9		188,0	56	G 1/8	32	1,54 kg
LSE 4812	43 942 24	12	M60x2	234,0	56	G 1/8	32	1,85 kg
LSE 603	43 943 20	3		137,5	70	G 1/4	40	2,05 kg
LSE 606	43 943 22	6		174,5	70	G 1/4	40	2,34 kg
LSE 609	43 943 24	9		248,5	70	G 1/4	40	3,13 kg
LSE 6012	43 943 25	12		313,5	70	G 1/4	40	3,82 kg
High pressure version								
LSE H 483	43 942 45	3	M48x1,5	148,0	56	G 1/8	32	1,27 kg
LSE H 603	43 943 35	3	M60x2	171,5	70	G 1/4	40	2,41 kg
LSE H 606	43 943 36	6		289,5	70	G 1/4	40	3,80 kg

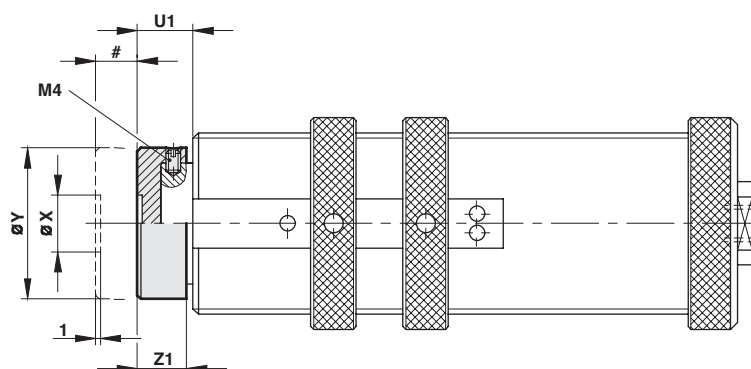
## Mountings

### Brackets, horizontal

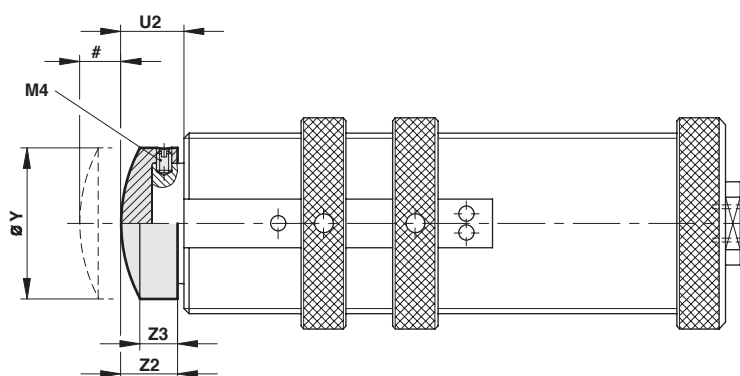


Thread	Order No.	$a+0,2$	b	c	d	e	f	g	h	i	k	Weight
M36x1,5	43 941 50	36,2	40	50	12	11,5	18	24	54	70	-	0,25 kg
M48x1,5	43 942 50	48,2	50	60	13	14	20	30	70	90	-	0,41 kg
M60x2	43 943 50	60,2	60	70	13	14	20	36	90	110	36	0,64 kg

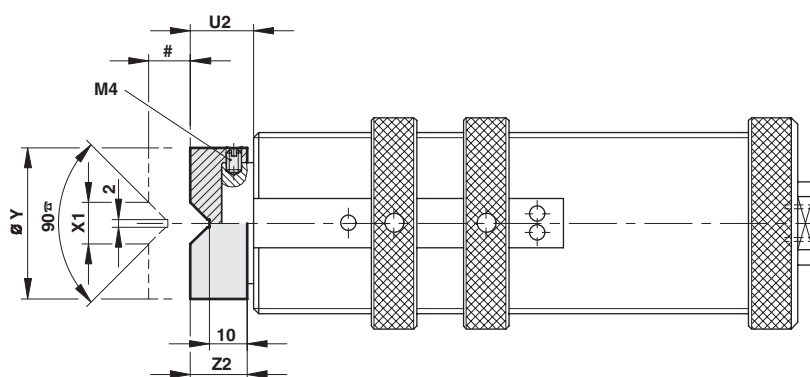
## Accessories Clamping head



## Spherical clamping head



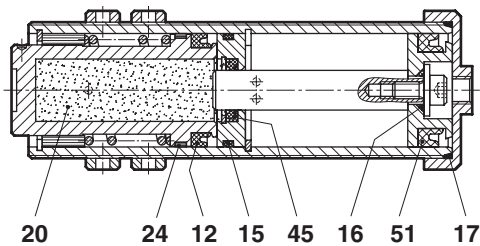
## V-grooved clamping head



#	Stroke
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Thread	U1	U2	Ø X	X1	Ø Y	Z1	Z2	Z3	Clamping head Order No.	Weight	Spherical clamping head Order No.	Weight	V-grooved clamping head Order No.	Weight
M36x1,5	14	16	10	11	30	13	15	10	43 941 55	0,05 kg	43 941 56	0,05 kg	43 941 57	0,05 kg
M48x1,5	14	16	15	11	40	13	15	10	43 942 55	0,09 kg	43 942 56	0,08 kg	43 942 57	0,09 kg
M60x2	19	19	15	15	50	18	18	11	43 943 55	0,21 kg	43 943 56	0,15 kg	43 943 57	0,19 kg

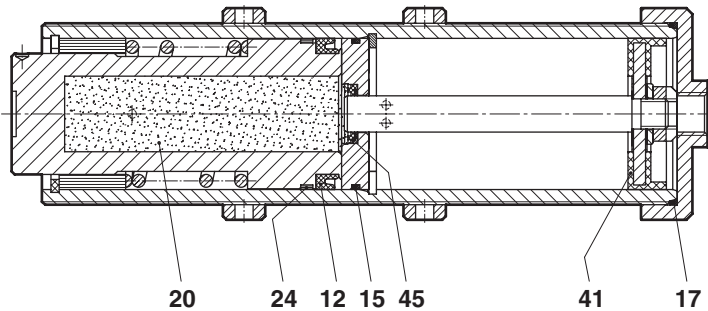
**Spares**      **LSE 363**  
                 **LSE 366**  
                 **LSE 369**



Model	Order No.	Spare kit	Item	Description	Quantity	Position	Description	Quantity
LSE 363	43 941 20	11 014 29	12	Seal	1	20	Special oil	1
LSE 366	43 941 21		15	'O'-ring	1	24	Guide strip	1
LSE 369	43 941 22		16	'O'-ring	1	45	Seal	1
			17	'O'-ring	1	51	Seal	1

Note: Please quote the unit model number when ordering spares kits.

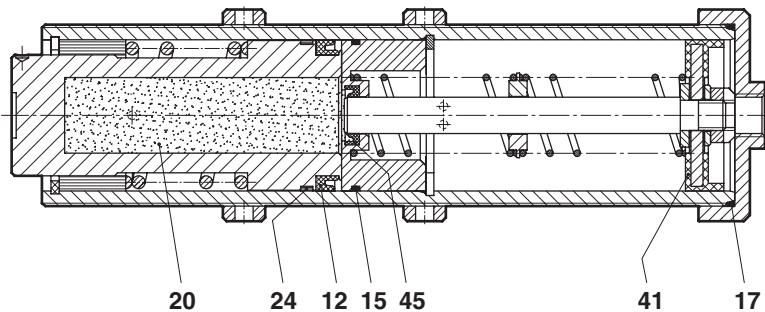
**Spares**      **LSE 483**      **LSE 603**  
                 **LSE 486**      **LSE 606**  
                 **LSE 489**      **LSE 609**  
                 **LSE 4812**      **LSE 6012**



Model	Order No.	Spare kit	Item	Description	Quantity
LSE 483	43 942 20	11 014 30	12	Dichtung	1
LSE 486	43 942 22		15	O-Ring	1
LSE 489	43 942 23		17	O-Ring	1
LSE 4812	43 942 24		20	Spezialöl	1
LSE 603	43 943 20	11 014 31	24	Führungsband	1
LSE 606	43 943 22		41	Kolben	1
LSE 609	43 943 24		45	Dichtung	1
LSE 6012	43 943 25				

Note: Please quote the unit model number when ordering spares kits.

**Spares**      **LSE H 483**  
                 **LSE H 603**  
                 **LSE H 606**



Model	Order No.	Spare kit	Item	Description	Quantity	Item	Description	Quantity
LSE H 483	43 942 45	11 261 43	12	Dichtung	1	24	Führungsband	1
LSE H 603	43 943 35	11 261 45	15	O-Ring	1	41	Kolben	1
LSE H 606	43 943 36	11 261 45	17	O-Ring	1	45	Dichtung	1
			20	Spezialöl	1			

Note: Please quote the unit model number when ordering spares kits.