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### Important Note

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# Zylinder ISO 6432 Technische Daten

# Cylinders ISO 6432 Technical Data

Diese Zylinder entsprechen der Norm DIN ISO 6432.  
Die Ausführung "S" ist nicht Bestandteil der Norm.

## Technische Daten:

Druckbereich:

Kolben Ø mm	Betriebsdruck (bar)	
	ew	dw
8	2 - 10	1.5 - 10
10	1.5 - 10	1.5 - 10
12	1.5 - 10	1 - 10
16	1.5 - 10	1 - 10
20	1.5 - 10	0.5 - 10
25	1.5 - 10	0.5 - 10

Umgebungs-

temperatur:

- 20 °C...+ 70 °C\*\*

Werkstoffe:

Zylinderrohr: CrNi-Stahl,  
korrosionsbeständig  
Zylinderdeckel:  
Aluminium  
Kolbenstange: CrNi-  
Stahl, korrosions-  
beständig

Dichtungen:

Elastomer, schlagfest  
Perbunan, ölbeständig

Schmiermittel:

Shell Tellus Öl C10  
oder gleichwertig

Medium:

Druckluft, gewartet\*

Hubbegrenzung:

möglichst extern  
(optimale Lebensdauer)

Hubtoleranz:

max. + 1,5 mm

Federkraft:

ausgelegt für Rückbe-  
wegung des Kolbens,  
nicht für angekoppelte  
Massen.

Flächenverhältnis der  
Kolben bei doppeltwir-  
kenden Zylindern (be-  
dingt durch Abzug der  
Kolbenstangenquer-  
schnitte)

Zylinder 8, 12 mm 4:3

Zylinder 10 mm 6:5

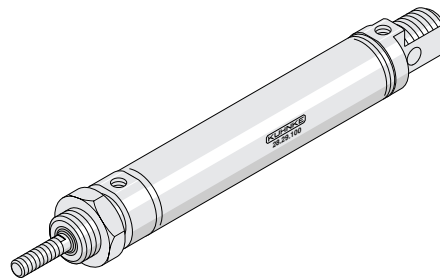
Zylinder 16, 20, 25 mm 7:6

Befestigung:

Ausführung "S":  
Schraubbefestigung am  
Zylinderdeckel der Kol-  
benstangenseite  
Ausführung "U":  
Universalbefestigung  
(Schraubbefestigung an  
beiden Zylinderdeckeln,  
Schwenkbefestigung)

Sonderzylinder nach Ihren Angaben und  
Zylinder mit doppelseitiger Kolbenstange,  
sowie Zylinder mit Zwischen- und Überlän-  
gen bitten wir anzufagen.

\*, \*\* siehe Technische Information



These cylinders have been designed in conformity with DIN ISO 6432 standard. Version "S" is not considered in above standard.

## Technical Data:

Pressure range:

Piston dia. mm	Operating pressure (bar)	
	sa	da
8	2 - 10	1.5 - 10
10	1.5 - 10	1.5 - 10
12	1.5 - 10	1 - 10
16	1.5 - 10	1 - 10
20	1.5 - 10	0.5 - 10
25	1.5 - 10	0.5 - 10

Ambient tem-

perature range:

- 20 °C...+ 70 °C\*\*

Materials:

cylinder tube: CrNi-steel  
cylinder covers:  
aluminium  
piston rod: CrNi-steel,  
corrosion-resistant  
cushioning: plastic,  
impact-resistant

Seals:

Perbunan, oil-resistant

Lubricant:

Shell Tellus Oil C10  
or equivalent

Operating

medium:

compressed air,  
prepared\*

Stroke limitation:

if possible external  
(for optimum life)

Stroke tolerance:

max. + 1.5 mm

Spring force:

designed for return of  
piston, not for any  
coupled mass.

area ratio of piston  
with double acting cy-  
linders (due to reduc-  
tion of  
piston rod sections)

Cylinders 8-12 mm 4:3

Cylinders 10 mm 6:5

Cylinders 16, 20, 25 mm 7:6

Mounting:

version "S":  
threaded mounting on  
cylinder cover at pis-  
ton rod end.  
version "U":  
universal mounting  
(threaded attachment  
on both cylinder cov-  
ers, trunnion moun-  
ting)

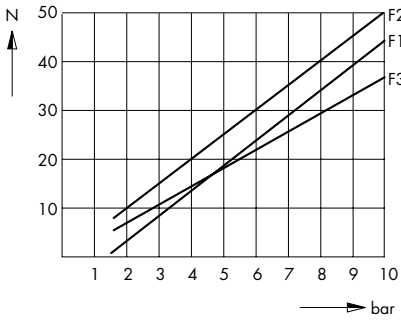
Please enquire about special cylinders  
to your own requirements and cylinders  
with double-sided piston rod as well as  
intermediate and extra long dimensions.

\*, \*\* see Technical Information

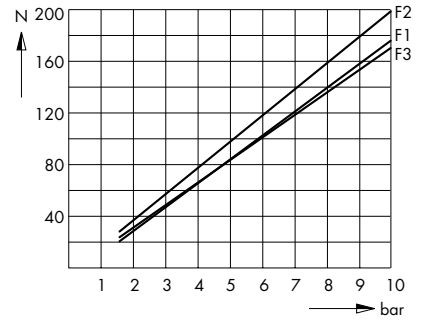
**Statische Zylinderkennlinien\***  
**Kolbendurchmesser**

**Static Cylinder Characteristics\***  
**Piston Diameter**

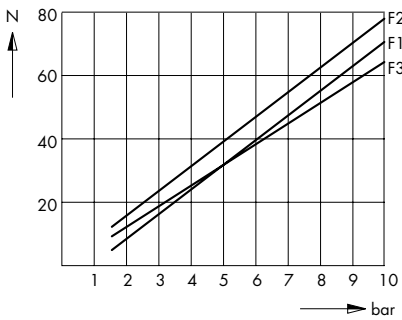
Ø 8 mm



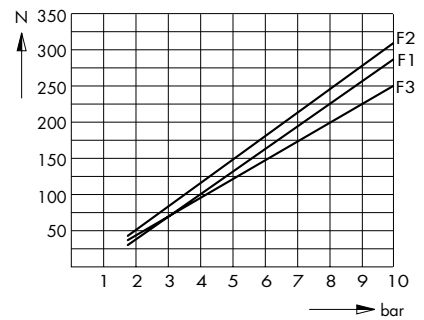
Ø 16 mm



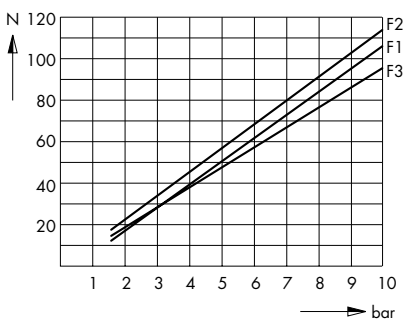
Ø 10 mm



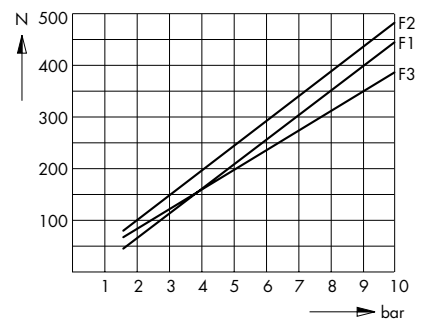
Ø 20 mm



Ø 12 mm



Ø 25 mm



\* Für das dynamische Verhalten sind die Zylinderkennlinien mit dem Faktor 0,5 - 0,7 zu multiplizieren.

F1 = einfachwirkende Zylinder  
F2 = doppeltwirkende Zylinder im Vorlauf  
F3 = doppeltwirkende Zylinder im Rücklauf

\* The cylinder characteristics are to be multiplied by a factor of 0.5 - 0.7 for the dynamic behaviour.

F1 = single acting cylinders  
F2 = double acting cylinders in forward stroke  
F3 = double acting cylinders in return stroke













# Zylinder ISO 6432

Doppeltwirkend, mit/ohne Magnetkolben  
Ø 8 ... 25 mm

# Cylinders ISO 6432

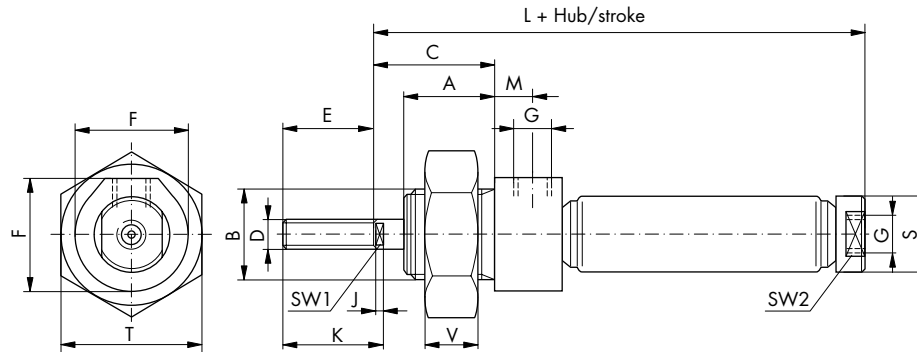
Double Acting, with/without Magnetic Piston  
Diameter 8 ... 25 mm

## Ausführung S, mit Magnetkolben

Der Zylinder wird mit montierter  
Kolbenstangenmutter geliefert

## Type S with magnetic piston

The cylinder is supplied with assembled  
rod nut



## Maßtabelle

## Dimensions

Kolben Ø Piston dia. mm	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S Ø	T	U	V	X	SW1	SW2
8	12	M12x1,25	16	M4	12	15	M5				55	5					10	19		7			8
10	12	M12x1,25	16	M4	12	15	M5				56	5					12	19		7			10
12	17	M16x1,5	22	M6	16	20	M5		3,5	19,5	64	5					14	24		8		5	12
16	17	M16x1,5	22	M6	16	20	M5		3,5	19,5	74	5					18	24		8		5	16
20	20	M22x1,5	24	M8	20	27	G1/8		4	23	82	8					22	32		10		7	19
25	22	M22x1,5	28	M10x1,25	22	27	G1/8		4	26	90	8					27	32		10		9	24

Kolben Ø Piston dia. mm	Bestell-Nr. *) Standard-Hübe (mm)									Order No. *) Standard strokes (mm)														
	10	25	40	50	80	100	125	160																
8	23.251.010	23.251.025	23.251.040	23.251.050	23.251.080	23.251.100																		
10	24.251.010	24.251.025	24.251.040	24.251.050	24.251.080	24.251.100																		
12	25.251.010	25.251.025	25.251.040	25.251.050	25.251.080	25.251.100	25.251.125																	
16	26.251.010	26.251.025	26.251.040	26.251.050	26.251.080	26.251.100	26.251.125	26.251.160																
20	27.251.010	27.251.025	27.251.040	27.251.050	27.251.080	27.251.100	27.251.125	27.251.160																
25	28.251.010	28.251.025	28.251.040	28.251.050	28.251.080	28.251.100	28.251.125	28.251.160																

\* Zwischenhübe sind auf Wunsch lieferbar bis zum max. Hub lt. Tabelle. Der Hub geht in die Bestell-Nr. in den letzten drei Ziffern ein.

### Beispiel:

26. 2 5 1. 125  
Kennzahl dw S M Hub  
f. Kolben Ø mm

\* Intermediate strokes are optionally available up to a max. stroke (see techn. table). The stroke appears as the last three digits in the order no.

### Example:

26. 2 5 1. 125  
key for da S M stroke  
piston dia. mm

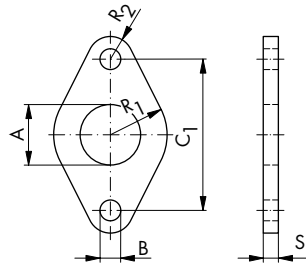






**Befestigungsflansch\***

Werkstoff: Stahl, Oberfläche schwarz



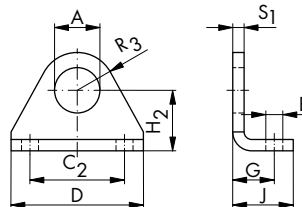
**Mounting Flange\***

Materials: steel, black surface

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C1	C2	D	E	F	G	H1	H2	J	P	R1	R2	R3	S1	T	U	V	W	X	Z	
23.305	8, 10	12	4,5	30										11	5		3							
26.305	12, 16	16	5,5	40										15	6		4							
28.305	20, 25	22	6,6	50										20	8		5							

**Befestigungswinkel\***

Werkstoff: Stahl, Oberfläche schwarz



**Mounting Bracket\***

Materials: steel, black surface

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C1	C2	D	E	F	G	H1	H2	J	P	R1	R2	R3	S1	T	U	V	W	X	Z	
23.312	8, 10	12	4,5		25	35			11		16	16				10	3							
26.302	12, 16	16	5,5		32	42			14		20	20				12,5	4							
28.302	20, 25	22	6,6		40	54			17		25	25				18	5							

\* Empfehlung:  
Bei 1 Befestigungswinkel/Flansch nur bis  
Hub<sub>max</sub> = 50 mm.

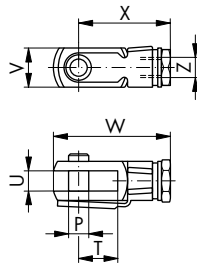
\* Recommendation:  
When using one mounting bracket/flange to  
strokemax = 50 mm only.

Zylinder  
ISO 6432  
Zubehör  
Befestigungszubehör Zylinder

Cylinders  
ISO 6432  
Accessories  
Mounting Accessories Cylinders

**Gabelkopf**

Werkstoffe: Gabelkopf:  
Stahl, verzinkt  
Sicherungsbolzen:  
Stahl, phosphatiert



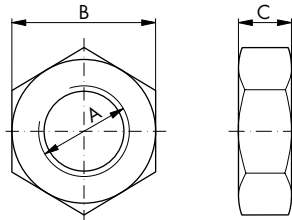
**Clevis**

Materials: clevis:  
steel, galvanized  
safety bolt:  
steel, phosphorized

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C1	C2	D	E	F	G	H1	H2	J	P	R1	R2	R3	S1	T	U	V	W	X	Z
23.314	8, 10												4					8	4	8	23,2	18,2	M4
19.008.07	12, 16												6					12	6	12	34	27	M6
19.008.08	20												8					16	8	16	42	32	M8
18.008.01	25												10					20	10	20	52	40	M10x1,25

**Befestigungsmutter**

Werkstoffe: Stahl, verzinkt



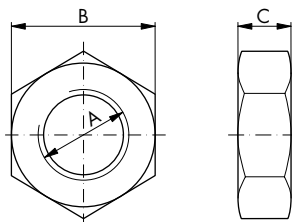
**Fixing Nut**

Materials: steel, galvanized

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C
JB2200007	8, 10	M12x1,25	19	7
JB2200002	12, 16	M16x1,5	24	8
JB5270001	20, 25	M22x1,5	32	10

**Kolbenstangenmutter**

Werkstoffe: Stahl, verzinkt



**Rod Nut**

Materials: steel, galvanized

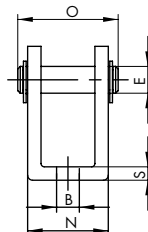
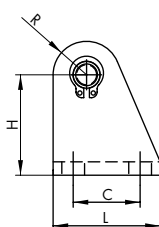
Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C
JB2200025	8, 10	M4	7	3
JB2200051	12, 16	M6	10	4
JB2200022	20	M8	13	5
JB2200001	25	M10x1,25	17	8

Zylinder  
 ISO 6432  
 Zubehör  
 Befestigungszubehör Zylinder

Cylinders  
 ISO 6432  
 Accessories  
 Mounting Accessories Cylinders

**Lagerbock**

Werkstoffe: Lagerbock:  
 Stahl, Oberfläche  
 schwarz  
 Bolzen:  
 Stahl, korrosions-  
 beständig  
 Sicherung:  
 Stahl, phosphatiert



**Trunnion**

Materials: trunnion:  
 steel, black surface  
 bolt:  
 steel, corrosion-  
 resistant  
 safety:  
 steel, phosphorized

Best.-Nr. /Order No.	Ø	B	E	C	H	L	N	O	R	S
23.313	8, 10	4,5	4	12,5	24	20	8,1	17	5	2,5
26.313	12, 16	5,5	6	16	27	25	12,1	23	7	3
28.313	20, 25	6,8	8	20	30	32	16,1	29,5	10	4

Zylinder  
ISO 6432  
Zubehör  
Positionsgeber Reed (2-adrig)

Cylinders  
ISO 6432  
Accessories  
Position Transmitters REED (2 pole)

**Technische Daten:**

Schaltausgang: Schließer  
Schaltleistung: max. 6 W  
Schaltspannung: 5 - 50 V AC/DC  
Schaltstrom: max. 200 mA  
Spannungsabfall: 3 V  
Schaltzeit: 0,1 ms  
Schaltfrequenz: max. 400 Hz  
Lebensdauer: 10<sup>7</sup> Schaltungen je nach Lastbedingungen

Umgebungs-  
temperatur: - 5 °C bis + 75 °C  
Schutzart: IP 67  
Schaltzustands-  
anzeige: LED  
Gehäusematerial: Kunststoff

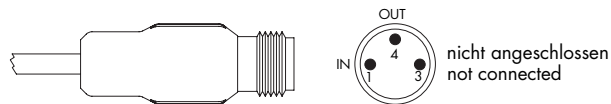
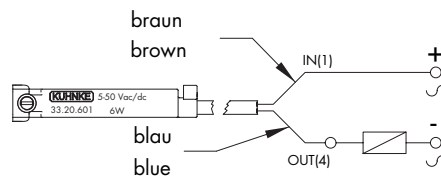
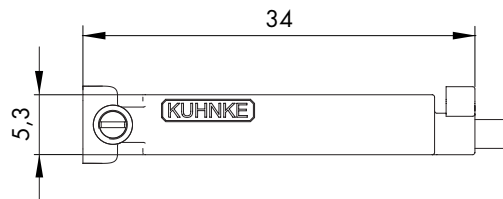


**Technical Data:**

Switching output: closing contact  
Switching capacity: max. 6 W  
Switching voltage: 5 - 50 V AC/DC  
Switching current: max. 200 mA  
Voltage drop: 3 V  
Switching time: 0.1 ms  
Switching rate: max. 400 Hz  
Service life: 10<sup>7</sup> switchings, depending on electrical load

Ambient temperature range: - 5 °C to + 75 °C  
Protection class: IP 67

Status indicator: LED  
Housing material: plastic



Kabel 2 x 0,14 mm<sup>2</sup>, 2000 mm lang

Bestell-Nr.	33.20.601
-------------	-----------

Cable 2 x 0.14 mm<sup>2</sup>, 2000 mm

Order No.	33.20.601
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Stecker 2-polig, M8, 300 mm Kabel

Bestell-Nr.	33.20.681
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Socket 2 pole, M8, 300 mm cable

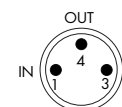
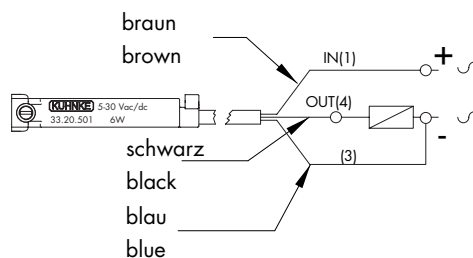
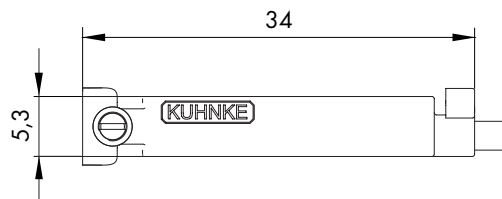
Order No.	33.20.681
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Zylinder  
ISO 6432  
Zubehör  
Positionsgeber Reed (3-adrig)

**Technische Daten:**

Schaltausgang: Schließer  
Schaltleistung: max. 6 W  
Schaltspannung: 5 - 30 V AC/DC  
Schaltstrom: max. 500 mA  
Spannungsabfall: 0,1 V  
Schaltzeit: 0,1 ms  
Schaltfrequenz: max. 400 Hz  
Lebensdauer: 10<sup>7</sup> Schaltungen je nach Lastbedingungen

Umgebungs-  
temperatur: - 5 °C bis + 75 °C  
Schutzart: IP 67  
Schaltzustands-  
anzeige: LED  
Gehäusematerial: Kunststoff



Kabel 3 x 0,14 mm<sup>2</sup>, 2000 mm lang

<b>Bestell-Nr.</b>	33.20.501
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Stecker 3-polig, M8, 300 mm Kabel

<b>Bestell-Nr.</b>	33.20.581
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Cylinders  
ISO 6432  
Accessories  
Position Transmitters REED (3 pole)

**Technical Data:**

Switching output: closing contact  
Switching capacity: max. 6 W  
Switching voltage: 5 - 30 V AC/DC  
Switching current: max. 500 mA  
Voltage drop: 0.1 V  
Switching time: 0.1 ms  
Switching rate: max. 400 Hz  
Service life: 10<sup>7</sup> switchings, depending on electrical load

Ambient temperature range: - 5 °C to + 75 °C  
Protection class: IP 67

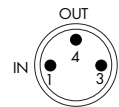
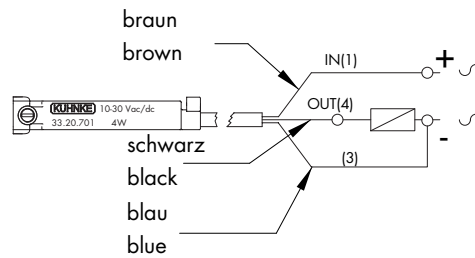
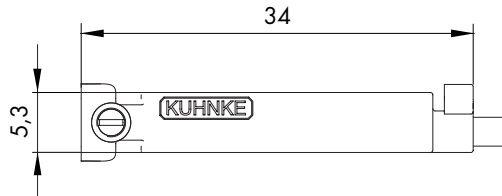
Status indicator: LED  
Housing material: plastic

Zylinder  
ISO 6432  
Zubehör  
Positionsgeber elektronisch

**Technische Daten:**

Schaltausgang: PNP Schließer  
Schaltleistung: max. 4 W  
Schaltspannung: 10 - 30 V AC/DC  
Schaltstrom: max. 200 mA  
Spannungsabfall: 0,7 V  
Schaltzeit: 0,8 ms  
Schaltfrequenz: max. 1 KHz  
Lebensdauer: 10<sup>11</sup> Schaltungen je nach Lastbedingungen

Umgebungs-  
temperatur: - 5 °C bis + 75 °C  
Schutzart: IP 67  
Schaltzustands-  
anzeige: LED  
Gehäusematerial: Kunststoff



Kabel 3 x 0,14 mm<sup>2</sup>, 2000 mm lang

<b>Bestell-Nr.</b>	33.20.701
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Stecker 3-polig, M8, 300 mm Kabel

<b>Bestell-Nr.</b>	33.20.781
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Cylinders  
ISO 6432  
Accessories  
Electronic Position Transmitters

**Technical Data:**

Switching output: PNP closing contact  
Switching capacity: max. 4 W  
Switching voltage: 10 - 30 V AC/DC  
Switching current: max. 200 mA  
Voltage drop: 0.7 V  
Switching time: 0.8 ms  
Switching rate: max. 1 KHz  
Service life: 10<sup>11</sup> switchings, depending on electrical load

Ambient temperature range: - 5 °C to + 75 °C  
Protection class: IP 67

Status indicator: LED  
Housing material: plastic

Cable 3 x 0.14 mm<sup>2</sup>, 2000 mm

<b>Order No.</b>	33.20.701
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Socket 3 pole, M8, 300 mm cable

<b>Order No.</b>	33.20.781
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Zylinder  
ISO 6432  
Zubehör Positionsgeber  
Befestigungsschellen

Cylinders  
ISO 6432  
Accessories Position Transmitter  
Fastening-Clamps

**Befestigungsschellen für  
Zylinder DIN ISO 6432**

Befestigungsschellen für die  
Elektronischen Positionsgeber  
33.20.701/781  
REED-Positionsgeber  
33.20.601/681/501/581

Bestell-Nr.	Kolben Ø
33.008.23.01	8
33.008.24.01	10
33.008.25.01	12
33.008.26.01	16
33.008.27.01	20
33.008.28.01	25

(inkl. Befestigungsschraube)



**Fastening-Clamps for  
Cylinder DIN ISO 6432**

Fastening-clamps for  
electronic position transmitter  
33.20.701/781  
REED-position transmitter  
33.20.601/681/501/581

Order No.	Piston dia.
33.008.23.01	8
33.008.24.01	10
33.008.25.01	12
33.008.26.01	16
33.008.27.01	20
33.008.28.01	25

(incl. mounting screw)

**Sensormontage**

**Sensor Assembly**

