

## Flexible ball transfer units

Our flexible ball transfer units provide a simple solution for transporting lightweight to heavy goods along all directions. Our ball transfer units enable you to easily move, rotate and control your conveyed goods.

The ball transfer units generally consist of a steel housing with an embedded, hardened ball cup, which serves as the running track for the small bearing balls. Many of these steel balls support the large load ball, which is also manufactured from steel or plastic.

The ball transfer units are constructed so that a very smooth run is possible in all directions, even when moving heavy loads (depending on the version). In a configuration where the ball transfer units are offset from the vertical with overhead mounting, it is possible to achieve a reduction in the load-carrying capacity of up to 50%.

Many of our ball transfer units are low-maintenance and feature an oil-soaked felt seal against contamination. Ball transfer units with plastic load balls are excellent for moving loads with delicate surfaces (such as glass, polished aluminum, brass and steel sheet).

Our standard product range includes ball transfer units with load ball diameters from 4.8 to 57.1 mm. The balls are made from steel, stainless steel or plastic, with load capacities up to 2,000 kg per ball transfer unit.

### Areas of use

- 🔧 machine construction
- 🔧 conveyor systems
- 🔧 sheet metal processing
- 🔧 machining centers
- 🔧 assembly lines
- 🔧 airport systems
- 🔧 and much more



## BALL TRANSFER UNITS



SERIES	ball transfer units with steel sheet housing	ball transfer units with mounting clip	ball transfer units from solid material	ball transfer units with recessed bodies	ball transfer units with threaded bolts		universal ball transfer units with base flange and press-fit	universal ball transfer units with threaded bolts	universal ball transfer units with head flange	universal ball transfer units or base flange and spring	mini ball transfer units	heavy-duty ball transfer units
LOAD CAPACITY	10 kg - 610 kg	38 kg - 610 kg	50 kg - 1,500 kg	12 kg - 340 kg	20 kg - 140 kg		25 kg - 100 kg	25 kg - 100 kg	25 kg - 100 kg	25 kg - 100 kg	5 kg - 70 kg	35 kg - 2,000 kg
DIAMETER	24 mm - 62 mm	24 mm - 62 mm	24 mm - 100 mm	22 mm - 75 mm	32 mm - 55 mm		39 mm - 44 mm	39.5 mm	42 mm	42 mm - 44.5 mm	8 mm - 28 mm	12 mm - 50 mm
MATERIALS	steel, stainless, plastic	steel, stainless	steel, stainless	steel, stainless, plastic	steel, stainless, plastic		steel, stainless, plastic	steel, stainless, plastic	steel, stainless, plastic	steel, stainless, plastic	steel, stainless, aluminum	steel
STARTING FROM PAGE	674	675	676	677	678		679	680	681	682	683	684



**"Tracks for ball transfers units are on page 660; tables are on page 592"**



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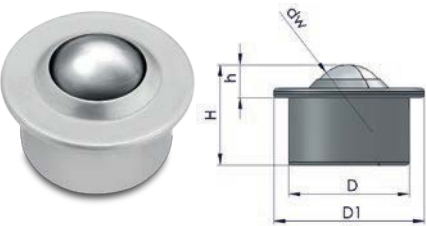
Give us a call for more advice on planning your personal facility.

Ball transfer units with steel plate housings

- KR-B = galvanized steel plate housing with steel ball
- KR-B-VA = galvanized steel plate housing with stainless steel ball
- KR-BVA = all parts from stainless steel
- KR-B-KU = galvanized housing with plastic ball
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations

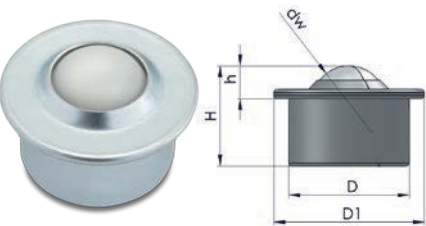
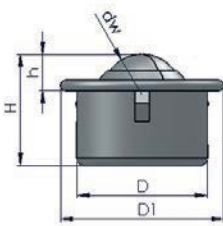
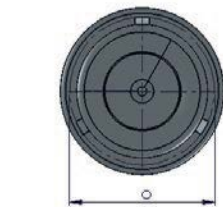
Ball transfer units with mounting clips for secure retention and easy installation

- KR-BK = galvanized steel plate housing with steel ball
- KR-BK-VA = galvanized steel plate housing with stainless steel ball
- KR-BKVA = all parts from stainless steel
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations
- seals for more demanding requirements can also be supplied at an additional cost when needed



ball transfer series KR-B	dw mm	D mm	D1 mm	H mm	h mm	load-carrying capacity kg
KR-B-15 Ident No.: 0017480	15.8	24	31	21	9.5	60
KR-B-22 Ident No.: 0017490	22.2	36	45	30	9.8	160
KR-B-30 Ident No.: 0017499	30	45	55	37	13.8	300
KR-B-45 Ident No.: 0017510	44.5	62	75	53.5	19	610
KR-B-15-VA Ident No.: 0017482	15.8	24	31	21	9.5	60
KR-B-22-VA Ident No.: 0017492	22.2	36	45	30	9.8	160
KR-B-30-VA Ident No.: 0017501	30	45	55	37	13.8	300
KR-B-45-VA Ident No.: 0017512	44.5	62	75	53.5	19	610
KR-BVA-15 Ident No.: 0017487	15.8	24	31	21	9.5	38
KR-BVA-22 Ident No.: 0017496	22.2	36	45	30	9.8	100
KR-BVA-30 Ident No.: 0017508	30	45	55	37	13.8	200

ball transfer series KR-BK	dw mm	D mm	D1 mm	H mm	h mm	o mm	load-carrying capacity kg
KR-BK-15 Ident No.: 0026956	15.8	24	31	21	9.5	25	60
KR-BK-22 Ident No.: 0026957	22.2	36	45	30	9.8	37	160
KR-BK-30 Ident No.: 0026958	30	45	55	37	13.8	46	300
KR-BK-45 Ident No.: 0026959	44.5	62	75	54	19	63	610
KR-BK-15-VA Ident No.: 0026960	15.8	24	31	21	9.5	25	60
KR-BK-22-VA Ident No.: 0026961	22.2	36	45	30	9.8	37	160
KR-BK-30-VA Ident No.: 0026962	30	45	55	37	13.8	46	300
KR-BK-45-VA Ident No.: 0026963	44.5	62	75	54	19	63	610
KR-BKVA-15 Ident No.: 0026964	15.8	24	31	21	9.5	25	38
KR-BKVA-22 Ident No.: 0026965	22.2	36	45	30	9.8	37	100
KR-BKVA-30 Ident No.: 0026966	30	45	55	37	13.8	46	200



ball transfer series KR-B-KU	dw mm	D mm	D1 mm	H mm	h mm	load-carrying capacity kg
KR-B-15-KU Ident No.: 0017483	15.8	24	31	21	9.5	10
KR-B-22-KU Ident No.: 0017493	22.2	36	45	30	9.8	20
KR-B-30-KU Ident No.: 0017502	30	45	55	37	13.8	25



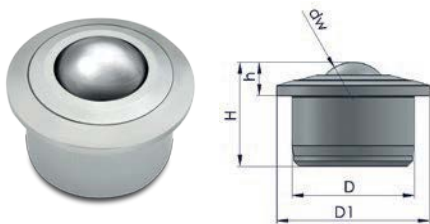


Ball transfer units made from solid material

- KR-M (MC) = galvanized steel housing with steel ball
- KR-M (MC)-VA = galvanized steel housing with stainless steel ball
- KR-MCVA = all parts from stainless steel
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations

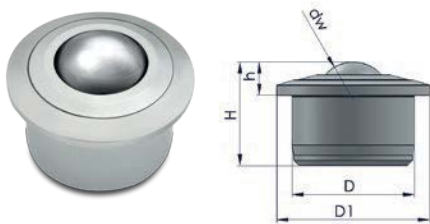
Temperature resistance:

- the running quality is not affected at a constant temperature between -30° C and +70° C or for a short time at +100° C



ball transfer series KR-M	dw mm	D mm	D1 mm	H mm	h mm	load-carrying capacity kg
KR-M-15 Ident No.: 0017484	15.8	24	31	21	9.5	100
KR-M-22 Ident No.: 0017494	22.2	36	45	30.5	9.8	180
KR-M-30 Ident No.: 0017506	30	45	55	36.8	13.8	350
KR-M-45 Ident No.: 0017517	44.5	62	75	53.5	19	600
KR-M-60 Ident No.: 0028513	57.1	100	117	77.5	29.5	1,500
KR-M-15-VA Ident No.: 0017486	15.8	24	31	21	9.5	100
KR-M-22-VA Ident No.: 0017495	22.2	36	45	30.5	9.8	180
KR-M-30-VA Ident No.: 0017507	30	45	55	36.8	13.8	350
KR-M-45-VA Ident No.: 0017518	44.5	62	75	53.5	19	600
KR-M-60-VA Ident No.: 0028764	57.1	100	117	77.5	29.5	1,000

Heavy-duty ball transfer units for transporting containers (airport ball transfer units) without seal and with extra large dirt exit hole



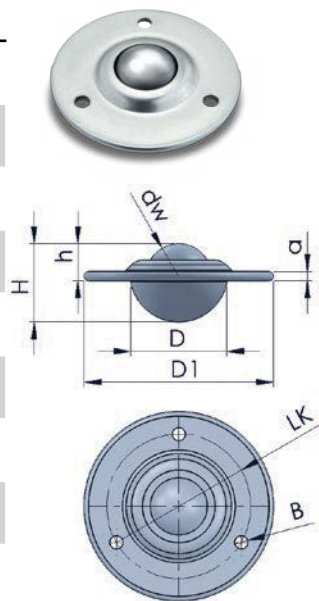
ball transfer series KR-MC	dw mm	D mm	D1 mm	H mm	h mm	load-carrying capacity kg
KR-MC-30 Ident No.: 0017503	30	45	55	36.8	13.8	350
KR-MC-45 Ident No.: 0017514	44.5	62	75	53.5	19	600
KR-MCVA-30 Ident No.: 0017504	30	45	55	36.8	13.8	200
KR-MCVA-45 Ident No.: 0017515	44.5	62	75	53.5	19	600
KR-MC-30-VA Ident No.: 0017505	30	45	55	36.8	13.8	200
KR-MC-45-VA Ident No.: 0017516	44.5	62	75	53.5	19	600

Ball transfer units with countersunk housings

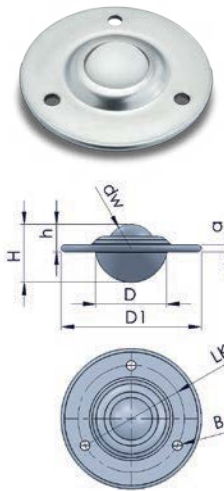
- KR-S = galvanized steel plate housing with steel ball
- KR-SVA = all parts from stainless steel
- KR-S-KU = galvanized housing with plastic ball
- Low installation height due to flange mounting
- with 2 or 3 mounting holes
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations



ball transfer series KR-S	dw mm	D mm	D1 mm	H mm	h mm	a mm	LK mm	B mm	load-carrying capacity kg
KR-S-15 Ident No.: 0028223	15.8	22.1	41.3	18.5	10.2	3.2	30	3.5	12
KR-S-20 Ident No.: 0014721	19	29.1	61	22	10	3.2	44.5	5.1	25
KR-S-25 Ident No.: 0014724	25	37.2	73	30	14.2	3.5	55.6	5.1	55
KR-S-30 Ident No.: 0014727	31.7	45.5	73.7	36.1	16.2	4.2	58.7	5.1	125
KR-S-40 Ident No.: 0014729	39.7	62	94.6	48.5	21.1	6.3	76.2	7	225
KR-S-50 Ident No.: 0014731	50.8	75.3	120.7	58.5	28.3	6.3	92	8	340
KR-SVA-20 Ident No.: 0014723	19	29.1	61	22	10	3.2	44.5	5.1	25
KR-SVA-25 Ident No.: 0014726	25.4	37.2	73	30	14.2	3.5	55.6	5.1	55
KR-SVA-30 Ident No.: 0014728	31.7	45.5	73.7	36.1	16.2	4.2	58.7	5.1	125
KR-SVA-40 Ident No.: 0014730	39.7	62	94.6	48.5	21.2	6.3	76.2	7	225
KR-SVA-50 Ident No.: 0014732	50.8	75.3	120.7	58.5	28.3	6.3	92	8	250



ball transfer series KR-S-KU	dw mm	D mm	D1 mm	H mm	h mm	a mm	LK mm	B mm	load-carrying capacity kg
KR-S-20-KU Ident No.: 0014722	19	29.1	61	22	10	3.2	44.5	5.1	20
KR-S-25-KU Ident No.: 0014725	25	37.2	73	30	14.2	3.5	55.6	5.1	24



Suitable castors can be found on page 248

Ball transfer with threaded bolts

- KR-G series of ball transfer units: with threaded bolts
- KR-G = galvanized steel plate housing with steel ball
- KR-GVA = all parts from stainless steel
- KR-G-KU = galvanized housing with plastic ball
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations
- seals for more demanding requirements can also be supplied at an additional cost when needed



ball transfer series KR-G	dw mm	D mm	H mm	h mm	GL mm	thread	load-carrying capacity kg
KR-G-20 Ident No.: 0014733	19	32.1	75.2	30.2	45	M8	25
KR-G-25 Ident No.: 0014736	25.4	39.7	82.7	39.7	43	M8	55
KR-G-40 Ident No.: 0014739	39.7	55.5	96.8	54.8	42	M10	140
KR-GVA-20 Ident No.: 0014735	19	32.1	65.2	30.2	35	M8	25
KR-GVA-25 Ident No.: 0014738	25.4	39.7	72.7	39.7	33	M8	55
KR-GVA-40 Ident No.: 0014740	39.7	55.5	96.8	54.8	42	M10	140



ball transfer series KR-G-KU	dw mm	D mm	H mm	h mm	GL mm	thread	load-carrying capacity kg
KR-G-20-KU Ident No.: 0014734	19	32.1	65.2	30.2	35	M8	20
KR-G-25-KU Ident No.: 0014737	25.4	39.7	82.7	39.7	43	M8	25

Universal ball transfer units with base flange or press-fit

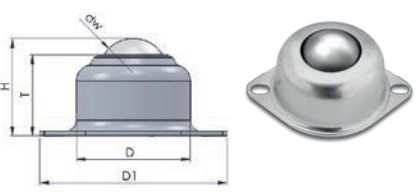
- KR-F (KR-UO) = galvanized housing with steel ball
- KR-FVA (KR-UVA) = all parts from stainless steel
- KR-F-KU (KR-U-KU) = galvanized housing with plastic ball
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations

Temperature resistance:

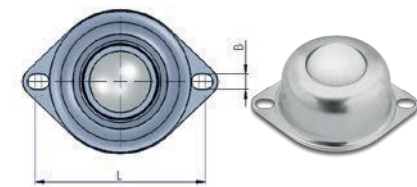
The running qualities are not affected for constant temperatures between -30° C and +70° C, or for +100° C for a short time.



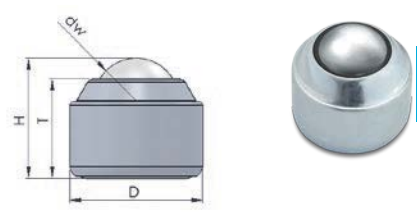
ball transfer series KR-F	dw mm	D mm	D1 mm	H mm	T mm	L mm	B mm	load-carrying capacity kg
KR-F-25 Ident No.: 0014741	25.4	44.5	69	30.5	24.2	60.3	5	55
KR-FVA-25 Ident No.: 0014743	25.4	44.5	69	30.5	24.2	60.3	5	55



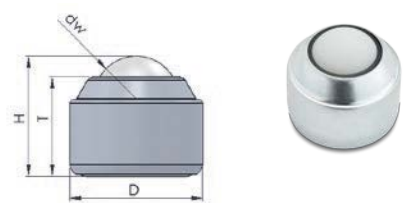
ball transfer series KR-F-KU	dw mm	D mm	D1 mm	H mm	T mm	L mm	B mm	load-carrying capacity kg
KR-F-25-KU Ident No.: 0014742	25.4	44.5	69	30.5	24.2	60.3	5	25



ball transfer series KR-UO	dw mm	D mm	H mm	T mm	load-carrying capacity kg
KR-U0-25 Ident No.: 0014744	25.4	39.5	35.8	29.7	100
KR-U0VA-25 Ident No.: 0014746	25.4	39.5	35.8	29.7	100



ball transfer series KR-U0-KU	dw mm	D mm	H mm	T mm	load-carrying capacity kg
KR-U0-25-KU Ident No.: 0014745	25.4	39.5	35.8	29.7	25

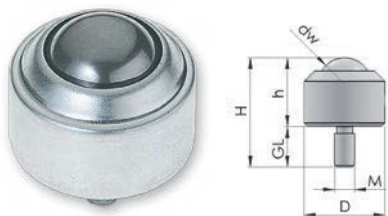


Universal ball transfer with threaded bolts

- KR-U1 series of ball transfer units: with threaded bolts
- KR-U1VA = all parts from stainless steel
- KR-U1-KU = galvanized housing with plastic ball
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations

Universal ball transfer units with head flange

- ball transfer units with head flange
- KR-U2 = galvanized housing with steel ball
- KR-U2VA = all parts from stainless steel
- KR-U2-KU = galvanized housing with plastic ball
- all load-carrying capacity specifications are valid for use with an upright ball
- the load capacity decreases for overhead installations



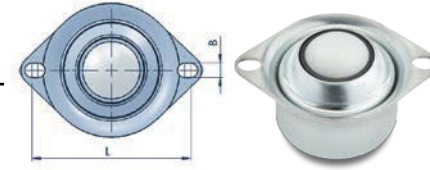
ball transfer series KR-U1	dw mm	D mm	H mm	h mm	GL mm	thread	load-carrying capacity kg
KR-U1-25-18 Ident No.: 0014747	25.4	39.5	53.8	35.8	18	M8	100
KR-U1VA-25 Ident No.: 0014751	25.4	39.5	53.8	35.8	18	M8	100

ball transfer series KR-U2	dw mm	D mm	D1 mm	H mm	h mm	a mm	L mm	B mm	load-carrying capacity kg
KR-U2-25 Ident No.: 0014752	25.4	42	69	36.5	12	1.7	58.7	5.1	100
KR-U2VA-25 Ident No.: 0014754	25.4	42	69	36.5	12	1.75	58.7	5.1	100



ball transfer series KR-U1-KU	dw mm	D mm	H mm	h mm	GL mm	thread	load-carrying capacity kg
KR-U1-25-KU Ident No.: 0014750	25.4	39.5	35.8	17.8	18	M8	25

ball transfer series KR-U2-KU	dw mm	D mm	D1 mm	H mm	h mm	a mm	L mm	B mm	load-carrying capacity kg
KR-U2-25-KU Ident No.: 0014753	25.4	42	69	36.5	12	1.75	58.7	5.1	25





Universal ball transfer units with base flange and lip seal on the loaded ball

- KR-U3 = galvanized housing with steel ball
- KR-U3VA = all parts from stainless steel
- KR-U3-KU = galvanized housing with plastic ball
- KR-U4-KU = spring-loaded ball transfer unit

Temperature resistance:

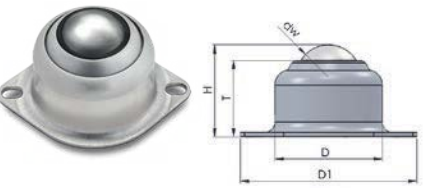
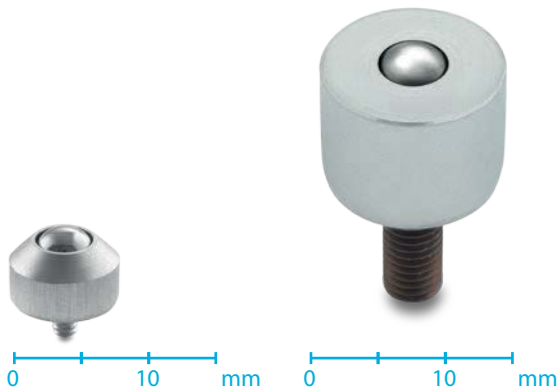
The running qualities are not affected for constant temperatures between -30° C and +70° C, or for +100° C for a short time.

Mini ball transfer units with threaded bolts

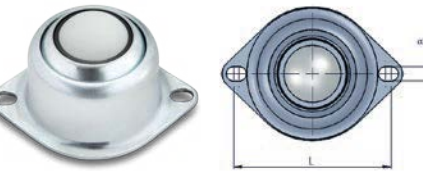
- for use in measuring instruments
- for transporting materials in clean rooms
- guides for small linear bearings
- KR-I = steel housing, steel balls
- KR-IVA = stainless steel housing, stainless steel balls, cylindrical top
- KR-IA = aluminum housing, stainless steel balls, conical top

Temperature resistance:

The running quality is not affected at a constant temperature between -30° C and +70° C or for a short time at +100° C.



ball transfer series KR-U3	dw mm	D mm	D1 mm	H mm	T mm	L mm	B mm	load-carrying capacity kg
KR-U3-25 Ident No.: 0014756	25.4	42	69	35.8	6.1	58.7	6.1	100
KR-U3VA-25 Ident No.: 0014758	25.4	42	69	35.8	6.1	58.7	5	100



ball transfer series KR-U3-KU	dw mm	D mm	D1 mm	H mm	T mm	L mm	B mm	load-carrying capacity kg
KR-U3-25-KU Ident No.: 0014757	25.4	42	69	35.8	6.1	58.7	5	25

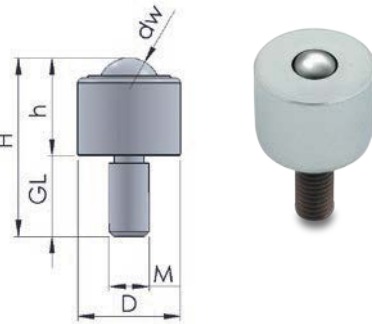
Universal ball transfer units with spring-loaded ball transfer unit



ball transfer series KR-U4	dw mm	D mm	D1 mm	H mm	h mm	a mm	L mm	B mm	load-carrying capacity kg
KR-U4-25 Ident No.: 0014759	25.4	44.5	71.3	72.2	19.3	2	60.4	5.1	50

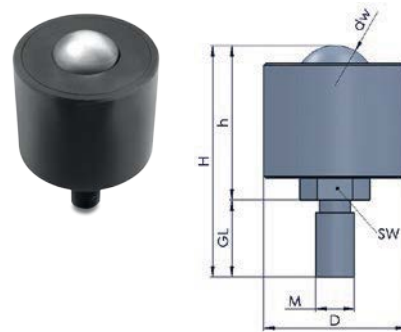
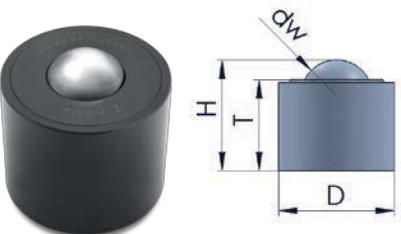
spring-loaded ball transfer unit

ball transfer series KR-I	dw mm	D mm	H mm	h mm	GL mm	thread	load-carrying capacity kg
KR-IA-05 Ident No.: 0026941	4.8	8	8.5	6	2.5	M2	5
KR-I-05 Ident No.: 0026942	4.8	13	24	9	15	M6	10
KR-IVA-05 Ident No.: 0026943	4.8	13	24	9	15	M6	10
KR-IA-06 Ident No.: 0026944	6.4	13	16.5	10.5	6	M3	10
KR-I-06 Ident No.: 0026945	6.4	17	26	11	15	M6	20
KR-IVA-06 Ident No.: 0026946	6.4	17	26	11	15	M6	20
KR-IA-08 Ident No.: 0026947	7.9	15	20.5	12.5	8	M4	15
KR-I-08 Ident No.: 0026948	7.9	18	32	14	18	M8	30
KR-IVA-08 Ident No.: 0026949	7.9	18	32	14	18	M8	30
KR-I-10 Ident No.: 0026950	9.6	23	40	20	20	M8	40
KR-IVA-10 Ident No.: 0026951	9.6	23	40	20	20	M8	40
KR-I-13 Ident No.: 0026952	12.7	28	48	25	23	M8	50
KR-IVA-13 Ident No.: 0026953	12.7	28	48	25	23	M8	50
KR-I-16-K Ident No.: 0026954	15.8	24	32.5	20.5	12	M6	70
KR-IVA-16-K Ident No.: 0026955	15.8	24	32.5	20.5	12	M6	70



Heavy-duty ball transfer with press-fit or threaded bolts

- all load-carrying capacity specifications are valid also for overhead installations
- the performance of our ball transfer units is optimized when they are used properly. Installation, load, and spacing accuracy are crucial for achieving optimal operating efficiency. In addition, the surfaces that come into contact with the ball transfer units must be hardened
- if it is difficult to adequately meet these requirements because of the conditions at the place of installation, then we recommend that a safety factor be incorporated into the calculation of the required quantity and performance



ball transfer series KR-OT	dw mm	D mm	H mm	T mm	load-carrying capacity kg
KR-OT-13 Ident No.: 0022451	12.7	20.6	19.6	16.1	35
KR-OT-25-135 Ident No.: 0022452	25.4	44.5	41.4	35.8	135
KR-OT-25-320 Ident No.: 0022453	25.4	50.8	44.7	38.6	320
KR-OT-38 Ident No.: 0022454	38.1	60	61.5	48.5	1,000
KR-OT-50 Ident No.: 0022455	50.8	101.6	98.4	84.1	2,000

ball transfer series KR-OTG	dw mm	D mm	H mm	h mm	GL mm	thread	load-carrying capacity kg
KR-OTG-13* Ident No.: 0022469	12.7	20.6	35.8	19.6	16.2	M8	35
KR-OTG-25-135 Ident No.: 0022470	25.4	44.5	72.4	48.3	24.1	M12	135
KR-OTG-25-320 Ident No.: 0022471	25.4	50.8	77	51.3	25.7	M12	320
KR-OTG-38 Ident No.: 0022472	38.1	60	114.3	60.7	40.8	M20	1,000
KR-OTG-50 Ident No.: 0022473	50.8	101.6	159	109.1	49.9	M24	2,000

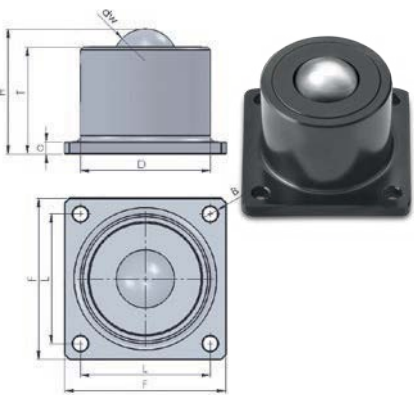
\* without a key length on the thread tap

Heavy-duty ball transfer with base flange or head flange

- for use when overall height is limited
- all load-carrying capacity specifications are valid also for overhead installations
- the performance of our ball transfer units is optimized when they are used properly. Installation, load, and spacing accuracy are crucial for achieving optimal operating efficiency. In addition, the surfaces that come into contact with the ball transfer units must be hardened
- if it is difficult to adequately meet these requirements because of the conditions at the place of installation, then we recommend that a safety factor be incorporated into the calculation of the required quantity and performance

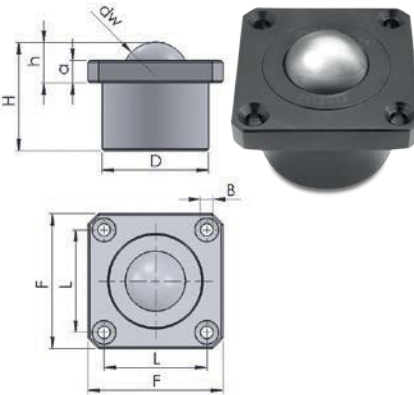


ball transfer series KR-OTF	dw mm	D mm	H mm	a mm	T mm	FxF mm	LxL mm	B mm	load-carrying capacity kg
KR-OTF-13 Ident No.: 0022456	12.7	23.8	22.6	3.2	19.1	44.5	34.8	3.6	35
KR-OTF-25-135 Ident No.: 0022457	25.4	44.5	41.4	4.8	35.8	57.2	44.5	5.6	135
KR-OTF-25-320 Ident No.: 0022458	25.4	50.8	45.5	6.3	39.1	76.2	57.9	7.1	320
KR-OTF-38 Ident No.: 0022459	38.1	60	62.2	12.4	49.2	76.2	57.9	7.1	1,000
KR-OTF-50 Ident No.: 0022460	50.8	101.6	98.3	9.6	84	127	101.6	11	2,000

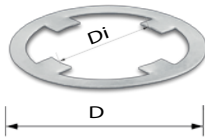


ball transfer series KR-OTKF	dw mm	D mm	H mm	h mm	a mm	FxF mm	LxL mm	B mm	load-carrying capacity kg
KR-OTKF-13* Ident No.: 0022464	12.7	23.8	22.4	11.2	3.2	44.5	34.8	3.6	35
KR-OTKF-25-135 Ident No.: 0022465	25.4	44.5	41.6	10.3	4.7	57.2	44.5	5.6	135
KR-OTKF-25-320 Ident No.: 0022466	25.4	50.8	45	13	6.9	76.2	57.9	7.1	320
KR-OTKF-38 Ident No.: 0022467	38.1	60	61.2	25.4	12.4	76.2	57.9	7.1	1,000
KR-OTKF-50 Ident No.: 0022468	50.8	101.6	98.3	33.3	19	127	101.6	11	2,000

\* version with only 2 mounting holes







Clip CL11	D mm	Di mm	a = flange height mm
CL11-22 Ident No.: 0029207	71.1	35.9	0.7
CL11-30 Ident No.: 0029208	71.1	44.9	0.7
CL11-45 Ident No.: 0025498	72.6	61.2	0.7



Clip CL14	D mm	Di mm	H mm	a mm
CL14-15 Ident No.: 0011650	30.9	24.7	6	0.3
CL14-22 Ident No.: 0011651	44.5	36.7	7	0.3
CL14-30 Ident No.: 0011652	54.9	45.7	7	0.3
CL14-45 Ident No.: 0029213	74	62.7	7	0.3