

# ALUMINIUM LINEAR HOUSINGS

These lightweight yet heavy duty aluminium sets offer high accuracy. They consist of a corrosion resistant, highly rigid aluminium housing and a double sealed ball bushing.

The user can choose from all steel ball bushings, ball bushing with plastic cage, or our super ball bushings.

High speeds and accelerations are possible.

Permutations available: (example is for 20mm bore)

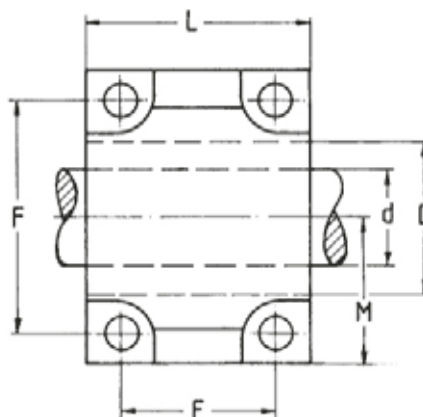
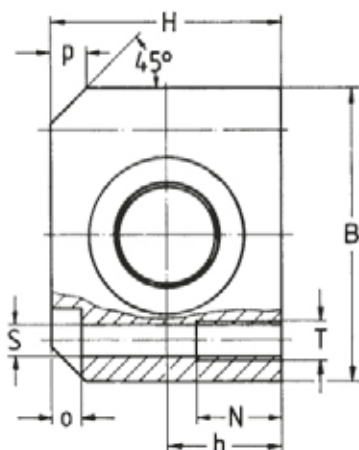
Ball bushing with plastic cage and seals: AE35-220

All steel ball bushing without seals: AE35-020

All STAINLESS steel bushing without seals: AE35-520

The sealed type (AE35-2..) can operate in temperatures of up to 80°C.

For high temperature applications specify the steel / unsealed version AE35-0..



PART	d	B	H	h	L	D	E	F	M	S	T	N	O	P	Load C (N)	Load C <sub>0</sub> (N)	Weight (kg)
AE35-212	12	42	35	18	39	22	23	32	21	4.3	M5	11	4	5	570	800	0.14
AE35-216	16	52	42	22	43	26	26	40	26	5.3	M6	13	5	6	800	940	0.20
AE35-220	20	60	50	25	54	32	32	45	30	6.6	M8	18	6	7	900	1400	0.38
AE35-225	25	76	60	30	67	40	40	60	38	8.4	M10	22	8	9	1100	1700	0.73
AE35-230	30	86	70	35	79	47	45	68	43	8.4	M10	22	8	10	1700	3000	1.12
AE35-240	40	108	90	45	91	62	58	86	54	10.5	M12	26	10	12	2300	4700	2.30
AE35-250	50	130	105	50	113	75	50	108	65	13.5	M16	34	12	13	4100	8300	3.80

Available with  $\pm 0.02$  mm tolerance for side mounting

These Aluminium Sets are also available slotted as Adjustable Type sets. Order part no AE36- ... with suffix depending on ball bushing required (see above). In general, because of the close tolerances of ball bushings fitted to our aluminium sets we do not recommend the use of the adjustable type.

# OPEN ALUMINIUM LINEAR HOUSINGS

When mounting these Open Type Aluminium Sets the four securing holes should be provided with bolts to achieve the maximum load capacity and the best rigidity for every mounting position.

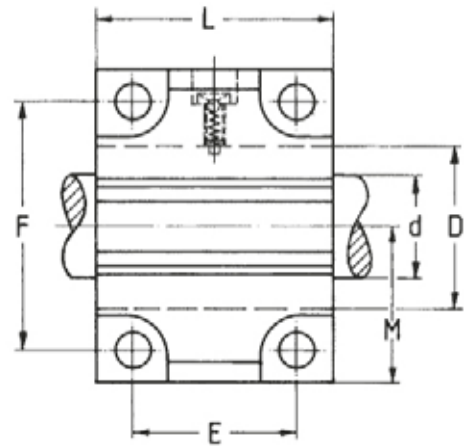
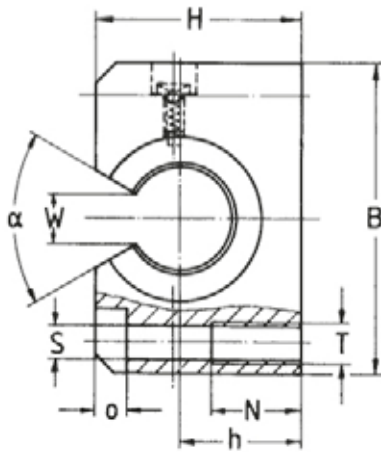
The housings are available equipped with different ball bushings.

Permutations available: (example is for 20mm bore)

Ball bushing with plastic cage and seals: AE37-220  
 All steel ball bushing without seal: AE37-020  
 All STAINLESS steel bushing without seal AE37-520



The sealed type (AE37-2..) can operate up to 80° C.  
 For high temperature applications specify the steel / unsealed version AE37-0..



PART	d	B	H	h	L	D	E	F	M	S	T	N	O	W	$\alpha$	Load C (N)	Load C <sub>0</sub> (N)	Weight (kg)
AE37-212	12	42	28	18	39	22	23	32	21	4.3	M5	11	4	7.5	78	570	800	0.10
AE37-216	16	52	35	22	43	26	26	40	26	5.3	M6	13	5	10	78	580	870	0.17
AE37-220	20	60	42	25	54	32	32	45	30	6.6	M8	18	6	10	60	900	1400	0.28
AE37-225	25	76	51	30	67	40	40	60	38	8.4	M10	22	8	12.5	60	1100	1700	0.60
AE37-230	30	86	60	35	79	47	45	68	43	8.4	M10	22	8	12.5	50	1700	3000	0.90
AE37-240	40	108	77	45	91	62	58	86	54	10.5	M12	26	10	16.8	50	2300	4700	1.70
AE37-250	50	130	88	50	113	75	50	108	65	13.5	M16	34	12	21	50	4100	8300	2.80

If the direction of the load is not acting at right angles to the mounting surface please refer to notes on page 5.

Available with  $\pm 0.02$ mm tolerance for side mounting

These Aluminium Sets are also available slotted as Adjustable Type sets. Order part no AE38- ... with suffix depending on ball bushing required (see above). In general, because of the close tolerances of ball bushings fitted to our aluminium sets we do not recommend the use of the adjustable type.

# CAST IRON LINEAR HOUSINGS

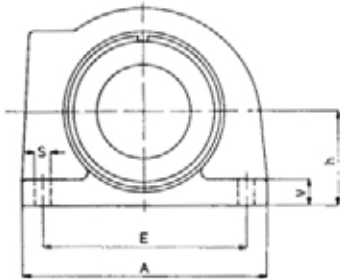
These bearing housings are manufactured from spheroidal graphite cast iron. The standard ball bushings are fitted to the closed (LE65-) and adjustable (LE66-) housings using external circlips located in the circlip grooves on the exterior of the ball bushing.

The design of the housing allows a mounting position that enables the load to act in any direction providing a high rigidity. The high precision of these units ensures full mutual interchangeability.

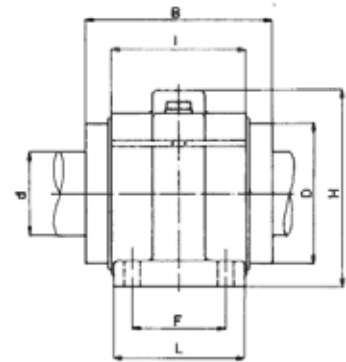
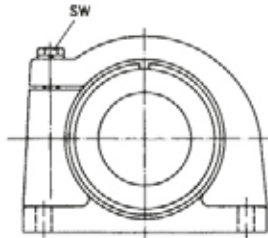
The housings can be fitted with either a sealed linear bearing with plastic cage (LE65-2..) or with an all steel linear bearing (LE65-0..).



Closed:  
LE65-0.. (without seals)  
LE65-2.. (with seals)



Adjustable:  
LE66-0.. (without seals)  
LE66-2.. (with seals)



PART (Closed)	PART (Adjustable)	d	D	h	H	B	A	L	I	E	F	S	V	SW	Weight (kg)
LE65-.08	LE66-.08	8	16	15	28	25	32	28	14	25	20	3.4	5	5.5	0.09
LE65-.12	LE66-.12	12	22	18	35	32	42	32	20	32	23	4.5	5.5	7	0.16
LE65-.16	LE66-.16	16	26	22	42	36	50	35	22	40	26	4.5	6.5	7	0.24
LE65-.20	LE66-.20	20	32	25	50	45	60	42	28	45	32	4.5	8	7	0.43
LE65-.25	LE66-.25	25	40	30	60	58	74	54	40	60	40	5.5	9	8	0.86
LE65-.30	LE66-.30	30	47	35	70	68	84	60	48	68	45	6.6	10	10	1.34
LE65-.40	LE66-.40	40	62	45	90	80	108	78	56	86	58	9	12	13	2.67
LE65-.50	LE66-.50	50	75	50	105	100	130	70	72	108	50	9	14	13	3.74
LE65-.60	LE66-.60	60	90	60	125	125	160	92	95	132	65	11	15	17	6.77
LE65-.80	LE66-.80	80	120	80	170	165	200	122	125	170	90	13	22	19	15.50

# OPEN CAST IRON LINEAR HOUSINGS

These spheroidal graphite cast iron housings are equipped with open type ball bushings that are secured against displacement by a grub screw. This enables easy interchange of the bushings.

The housings can be mounted so that the load is able to act in any direction.

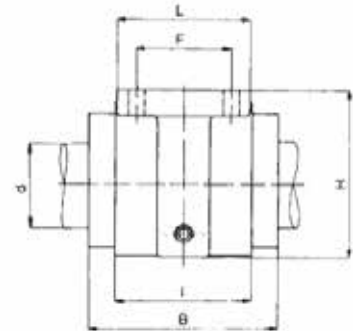
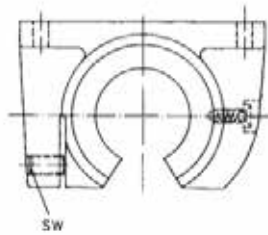
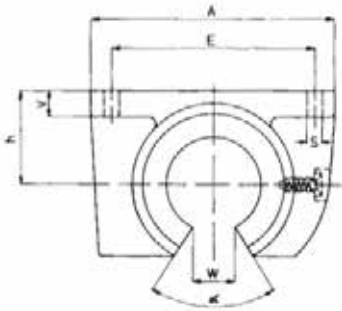
The high precision of these units ensures full mutual interchangeability.

The housing can be fitted with either a sealed linear bearing with plastic cage (LE67-2..) or with an all steel linear bearing (LE67-0..).



Open:  
LE67-0.. (without seals)  
LE67-2.. (with seals)

Adjustable:  
LE68-0.. (without seals)  
LE68-2.. (with seals)



PART (Open)	PART (Adjustable)	d	h	H	B	A	L	I	E	F	S	V	SW	W	$\alpha$	Weight (kg)
LE67-.12	LE68-.12	12	18	28	32	42	32	20	32	23	4.5	5.5	2.5	7.5	78	0.13
LE67-.16	LE68-.16	16	22	35	36	50	35	22	40	26	4.5	6.5	2.5	10	78	0.21
LE67-.20	LE68-.20	20	25	42	45	60	42	28	45	32	4.5	8	2.5	10	60	0.36
LE67-.25	LE68-.25	25	30	51	58	74	54	40	60	40	5.5	9	3	12.5	60	0.73
LE67-.30	LE68-.30	30	35	60	68	84	60	48	68	45	6.6	10	3	12.5	50	1.18
LE67-.40	LE68-.40	40	45	77	80	108	78	56	86	58	9	12	4	16.8	50	2.30
LE67-.50	LE68-.50	50	50	88	100	130	70	72	108	50	9	14	5	21	50	3.10
LE67-.60	LE68-.60	60	60	105	125	160	92	95	132	65	11	15	5	27.2	54	5.78
LE67-.80	LE68-.80	80	80	140	165	200	122	125	170	90	13	22	6	36.3	54	12.80

# TANDEM ALUMINIUM LINEAR HOUSINGS

These units are manufactured from aluminium alloy and incorporate two ball bushings in line.

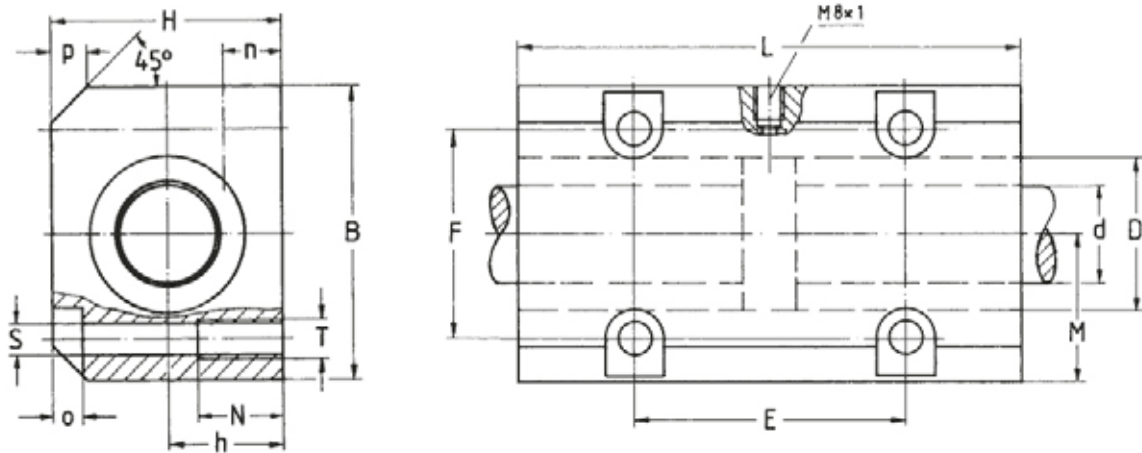
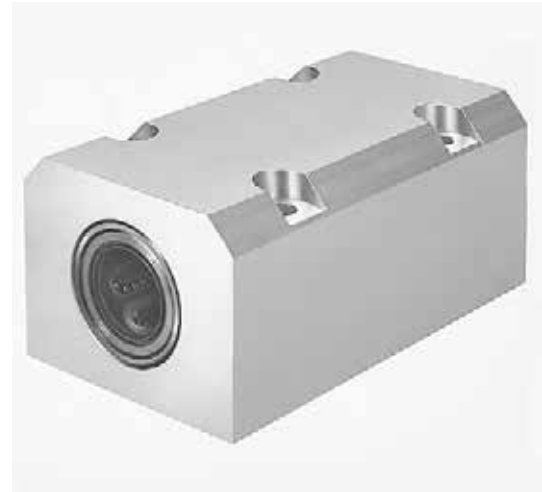
Using these aluminium tandem sets eliminates the difficulty of perfectly aligning two single housings.

As with our other housings the tandem sets are available with different types of ball bushings.

The various options (shown here for a 20mm shaft) are:

- Ball bushing with plastic cage and seals: TE85-220
- All steel ball bushing without seal: TE85-020
- All STAINLESS steel bushing without seal TE85-520

The sealed types can operate up to 80°C. Above this temperature specify unsealed (TE85-0..).



PART	d	B	H	h	L	D	E	F	M	S	T	N	n	o	p	Load C=C <sub>0</sub> (N)	Weight (kg)
TE85-212	12	42	35	18	76	22	40	30	21	5.3	M6	13	10	4	5	1100	0.32
TE85-216	16	52	42	22	84	26	45	36	26	5.3	M6	13	12	5	6	1300	0.48
TE85-220	20	60	50	25	104	32	55	45	30	6.6	M8	18	13	6	7	1750	0.84
TE85-225	25	76	60	30	130	40	70	54	38	8.4	M10	22	15	8	9	1950	1.62
TE85-230	30	86	70	35	152	47	85	62	43	10.5	M12	26	16	8	10	3100	2.46
TE85-240	40	108	90	45	176	62	100	80	54	13.5	M16	34	20	10	12	4300	4.79
TE85-250	50	130	105	50	224	75	125	100	65	13.5	M16	34	20	12	13	7600	8.06

Available with ±0.02 mm tolerance for side mounting

These Aluminium Sets are also available slotted as Adjustable Type sets. Order part no TE32- ... with suffix depending on ball bushing required (see above).

The mounting holes are then the same (E F & T) as the TE33 – see page 30.

In general, because of the close tolerances of ball bushings fitted to our Aluminium sets we do not recommend the use of the adjustable type.



# OPEN TANDEM ALUMINIUM LINEAR HOUSINGS

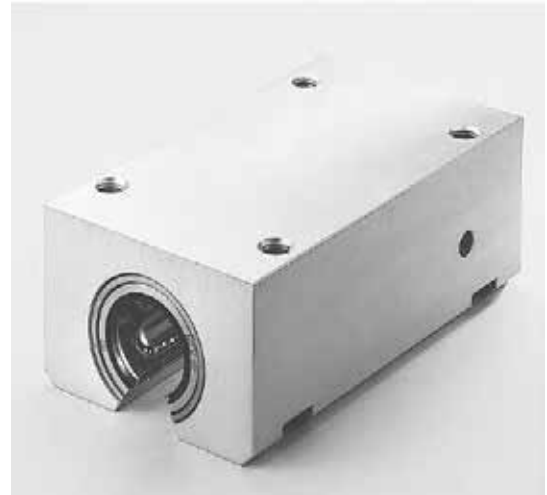
Two open type ball bushings are incorporated into these precision aluminium alloy housings.

Using these aluminium tandem sets eliminates the need to precisely mount two single housings.

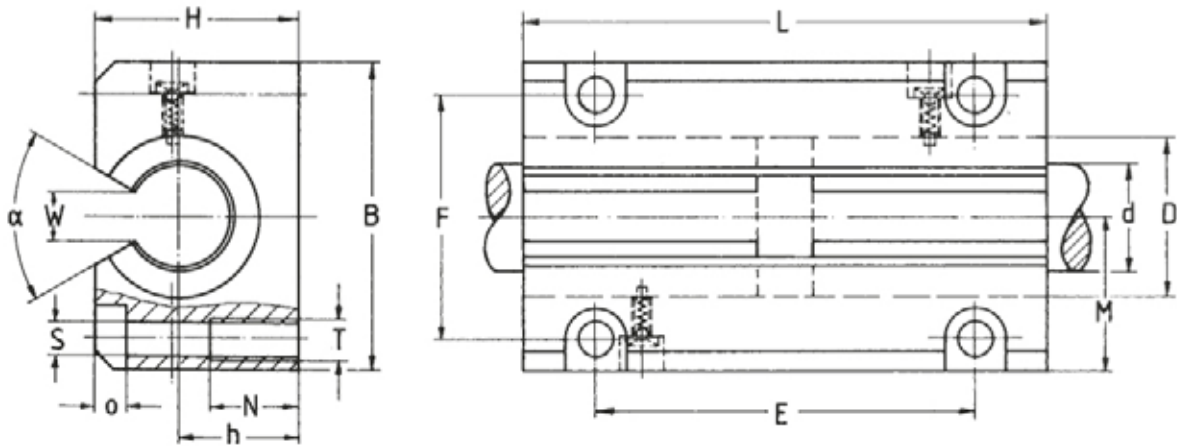
As with our other sets the tandem sets are available with different types of ball bushings.

Permutations available: (example is for 20mm bore)

- Ball bushing with plastic cage and seals: TE33-220
- All steel ball bushing without seals: TE33-020
- All STAINLESS steel bushing without seal TE33-520



The sealed types can operate up to 80°C.  
For high temperature applications specify the unsealed version (TE33-0..).



PART	d	B	H	h	L	D	E	F	M*	S	T	N	O	W	α	Load C=C <sub>0</sub> (N)	Weight (kg)
TE33-212	12	42	28	18	76	22	56	32	21	4.3	M5	11	4	7.5	78	1100	0.26
TE33-216	16	52	35	22	84	26	64	40	26	5.3	M6	13	5	10	78	1300	0.38
TE33-220	20	60	42	25	104	32	76	45	30	6.6	M8	18	6	10	60	1750	0.67
TE33-225	25	76	51	30	130	40	94	60	38	8.4	M10	22	8	12.5	60	1950	1.31
TE33-230	30	86	60	35	152	47	106	68	43	8.4	M10	22	8	12.5	50	3100	2.01
TE33-240	40	108	77	45	176	62	124	86	54	10.5	M12	26	10	16.8	50	4300	3.93
TE33-250	50	130	88	50	224	75	160	108	65	13.5	M16	34	12	21	50	7600	6.20

\*Available with ±0.02 mm tolerance for side mounting

These Aluminium Sets are also available slotted as Adjustable Type sets. Order part no TE34- ... with suffix depending on ball bushing required (see above). In general, because of the close tolerances of ball bushings fitted to our aluminium sets we do not recommend the use of the adjustable type.

# FLANGED LINEAR HOUSINGS

The flanged linear housings consist of a spheroidal graphite cast iron housing containing a ball bushing. The housing can be attached vertically or horizontally to the supporting surface.

The incorporated ball bushing is supported over its whole recirculating length.

As with our housings, these flanged sets are available with different types of ball bushings.

Permutations available: (example is for 20mm bore)

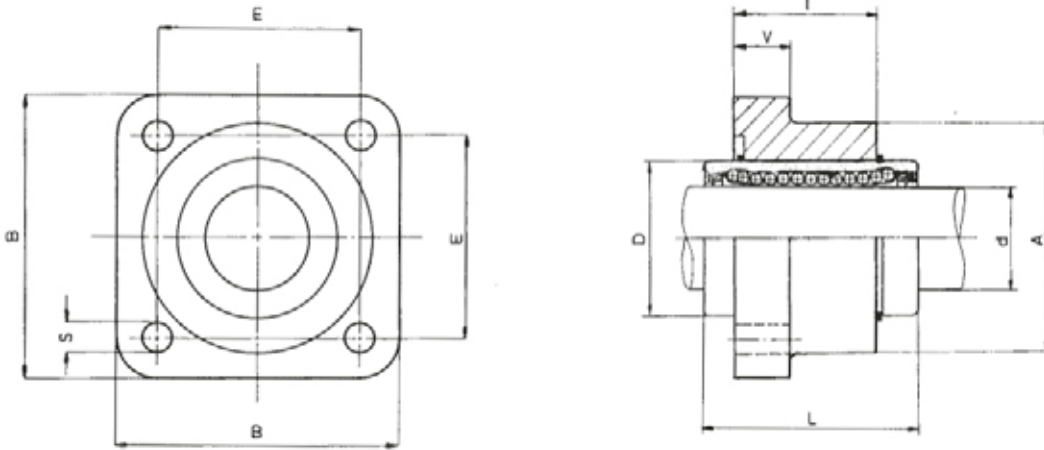
Ball bushing with plastic cage and seals: FE81-220

All steel ball bushing without seal: FE81-020

All STAINLESS steel bushing without seal FE81-520

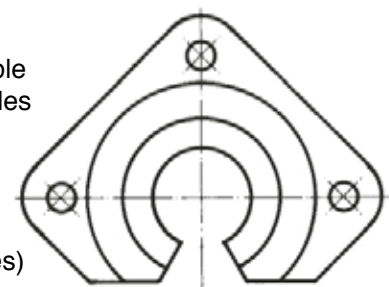
The sealed types can operate up to 80°C.

For high temperature applications specify the unsealed version (FE81-0..).



PART (no seals)	PART (2 seals)	d	B	L	I	D	A	E	S	V	Weight (kg)
FE81-012	FE81-212	12	42	32	22	22	30	30	5.5	6	0.14
FE81-016	FE81-216	16	50	36	24	26	36	35	5.5	8	0.23
FE81-020	FE81-220	20	60	45	30	32	42	42	6.6	10	0.38
FE81-025	FE81-225	25	74	58	42	40	54	54	6.6	12	0.78
FE81-030	FE81-230	30	84	68	50	47	62	60	9	14	1.23
FE81-040	FE81-240	40	108	80	59	62	82	78	11	16	2.31
FE81-050	FE81-250	50	130	100	75	75	100	98	11	18	4.32
FE81-060	FE81-260	60	160	125	99	90	118	120	14	22	7.94
FE81-080	FE81-280	80	200	165	130	120	156	155	14	26	16.75

For applications using rail supported shafts these flanged linear sets are available as open type sets. Please refer to the table above for housing detail and the tables for open type ball bushings for the bushing details



Part number becomes FE83-... (suffixes as above for different ball bushing types)

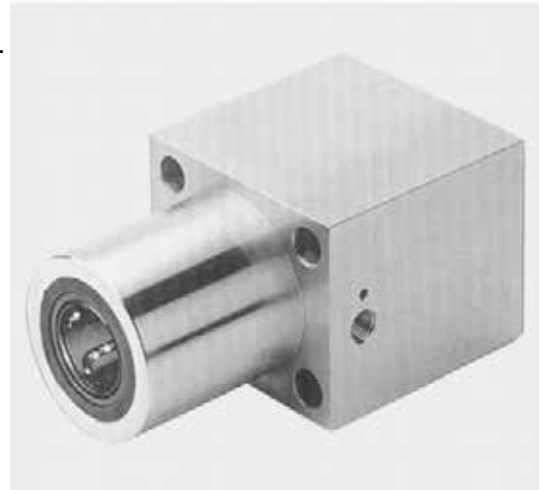
# TANDEM FLANGED ALUMINIUM HOUSINGS

These aluminium linear sets contain two ball bushings in line. The housing has mounting holes on one face to enable the unit to be bolted to a bulkhead as is shown in the drawing below.

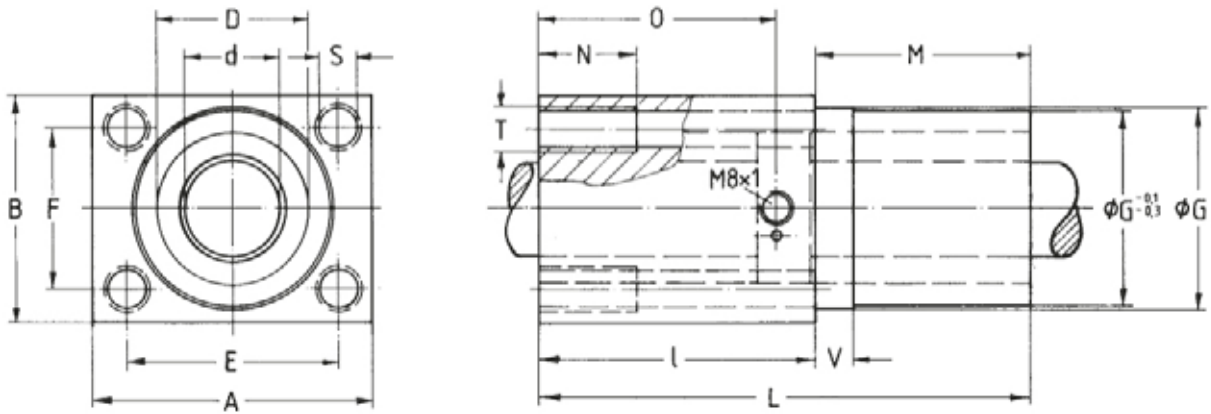
As with our other sets the flanged sets are available with different types of ball bushings.

Permutations available: (example is for 20mm bore)

Ball bushing with plastic cage and seals: TF83-220  
 All steel ball bushing without seal: TF83-020  
 All STAINLESS steel bushing without seal TF83-520



The sealed types can operate up to 80° C.  
 For higher temperatures specify the unsealed type (TF83-0..).



PART	d	D	G*	A	B	L	E	F	S*	T	I	M	N	O	V	Load C=C <sub>0</sub> (N)	Weight (kg)
TF83-212	12	22	30	42	34	76	32	24	5.3	M6	46	30	13	35	10	1100	0.22
TF83-216	16	26	35	50	40	84	38	28	6.6	M8	50	34	18	40	10	1300	0.33
TF83-220	20	32	42	60	50	104	45	35	8.4	M10	60	44	22	50	10	1750	0.58
TF83-225	25	40	52	74	60	130	56	42	10.5	M12	73	57	26	63	10	1950	1.15
TF83-230	30	47	61	84	70	152	64	50	13.5	M16	82	70	34	74	20	3100	1.70

\*We recommend the bore of the corresponding housing to be H7

+ locating screw DIN912 – 8.8



# OPEN SIDED ALUMINIUM LINEAR HOUSINGS

If the direction of the load is acting towards the open side of an open type ball bushing the load capacity is severely reduced.

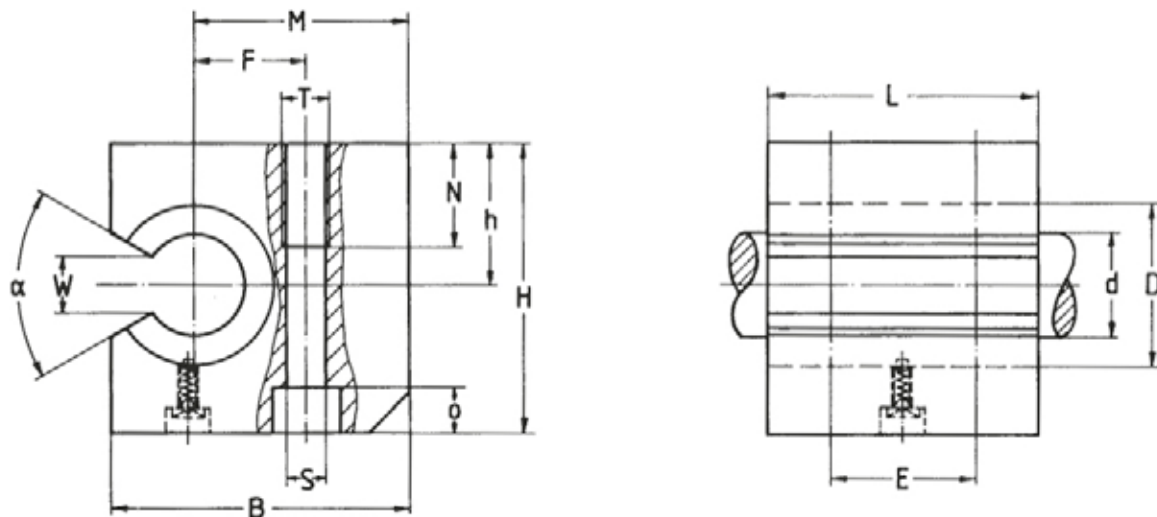
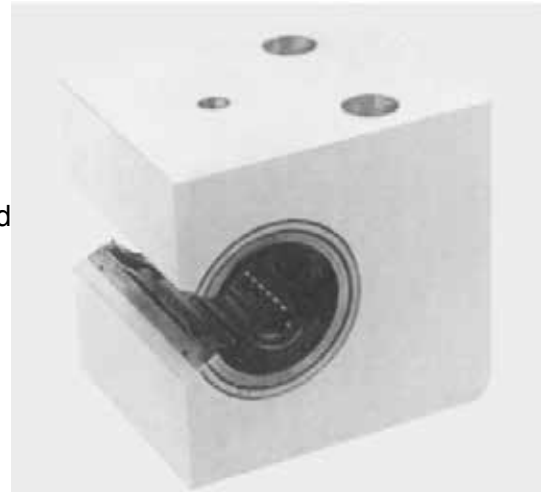
These open sided linear sets have been developed to overcome this issue and are designed to optimise rigidity and load capacity for side mounted applications.

As with our other sets these sets are available with different types of ball bushings.

Permutations available: (example is for 20mm bore)

- Ball bushing with plastic cage and seals: LE71-220
- All steel ball bushing without seal: LE71-020
- All STAINLESS steel bushing without seal LE71-520

The sealed types can operate up to 80°C.  
For higher temperatures specify the unsealed type (LE71-020).



PART	d	B	H	h	L	D	E	F	M	S	T	N	o	W	$\alpha$	Load <sup>+</sup> C (N)	Load <sup>+</sup> C <sub>0</sub> (N)	Weight (kg)
LE71-220	20	60	60	30	54	32	30	22	43	8.4	M10	22	9	17	60	900	1400	0.40
LE71-225	25	75	72	35	67	40	36	28	54	10.5	M12	26	11	21	60	1100	1700	0.75
LE71-230	30	86	82	40	79	47	42	34	61	13.5	M16	34	13	21	50	1700	3000	1.15
LE71-240	40	110	100	45	91	62	48	43	78	16.0	M20	43	14	27	50	2300	4700	2.00
LE71-250	50	127	115	50	113	75	62	50	89	17.5	M20	43	17	33	50	4100	8300	3.50

•Available with  $\pm 0.02$  tolerance for side mounting

+ If the direction of the load is not acting at 90° to the mounting surface please refer to the notes on page 5.

These aluminium sets are also available slotted as adjustable type sets. Order part no LE72- ... with suffix depending on ball bushing required (see above). In general, because of the close tolerances of ball bushings fitted to our aluminium sets we do not recommend the use of the adjustable type.

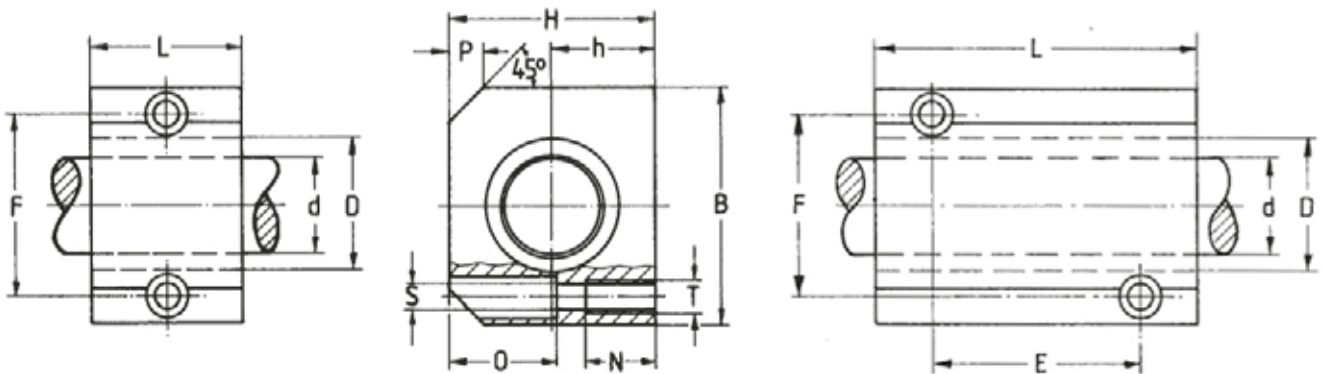
# COMPACT ALUMINIUM LINEAR HOUSINGS

These aluminium sets are equipped with compact ball bushings.

There are two types, single length (AG27) or tandem (double) length (AG85).

To order the sets with standard steel ball bushings use part numbers shown in the table below e.g. AG27-220

To order the sets with STAINLESS STEEL ball bushings modify the part number to read (for example) AG27-520 or AG85-520



PART	PART (Tandem)	d	B	H	h	L	D	E	F	S	T	N	O	P	Load C (N)	Load C <sub>0</sub> (N)	Weight (kg)
AG27-212		12	40	33	17	28	19		29	4.3	M5	11	17	5	695	510	0.08
	AG85-212	12	40	33	17	60	19	35	29	4.3	M5	11	17	5	1140	1020	0.17
AG27-216		16	45	38	19	30	24		34	4.3	M5	11	20	6	930	630	0.11
	AG85-216	16	45	38	19	65	24	40	34	4.3	M5	11	20	6	1530	1270	0.23
AG27-220		20	53	45	23	30	28		40	5.3	M6	13	23	7	1160	800	0.15
	AG85-220	20	53	45	23	65	28	45	40	5.3	M6	13	23	7	1900	1600	0.32
AG27-225		25	62	54	27	40	35		48	6.6	M8	18	28	9	2120	1560	0.27
	AG85-225	25	62	54	27	85	35	55	48	6.6	M8	18	28	9	3450	3150	0.56
AG27-230		30	67	60	30	50	40		53	6.6	M8	18	31	10	3150	2700	0.40
	AG85-230	30	67	60	30	105	40	70	53	6.6	M8	18	31	10	5200	5400	0.82
AG27-240		40	87	76	39	60	52		69	8.4	M10	22	38	12	5300	4400	0.75
	AG85-240	40	87	76	39	125	52	85	69	8.4	M10	22	38	12	9000	9000	1.58
AG27-250		50	103	92	47	70	62		82	10.5	M12	26	46	18	6400	5800	1.20

These aluminium sets are available as slotted type to allow adjustment of running clearance. To specify that type use prefix AG28 (only standard length type available in slotted version)