O/C 7064378 (0519/23 type)

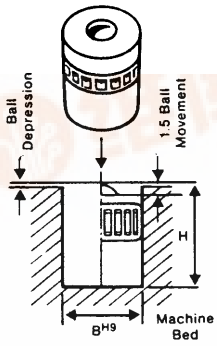
DIE LIFTERS

Mounting system of mechanical segment with securing device.

SINGLE MINUTE TOOL & DIE CHANGING (S.M.E.D.)

Our comprehensive range of tee blocks and spring loaded ball transfer units when set into the bed of your power press or machine tool will allow effortless positioning of tooling but still allow rigid clamping.
We can supply tee-blocks for standard and non standard tee slots, the length, pitch, ball height etc., being dependent on tool weight and profile.

SPRING-LOADED DIE LIFTERS

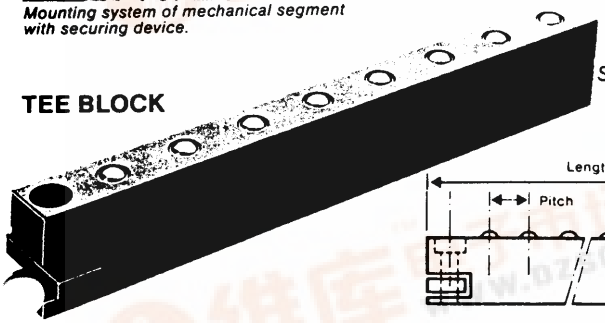


Standard Range

Reference Number	Body øB	Height H	Support Load Kg
DL-24-13	24	30	40
DL-30-13	30	36	60
DL-40-13	40	48	100

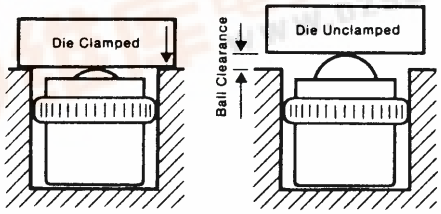
Supported Loads up to 500 Kg each.
Available on request.

TEE BLOCK



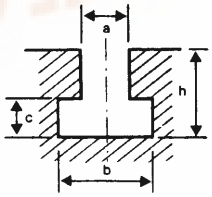
See also Spring Loaded Ball Units on page 15.

TYPICAL APPLICATION FOR DIE LIFTERS

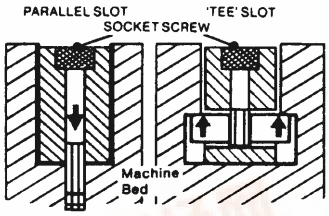


TEE SLOT PROPORTION

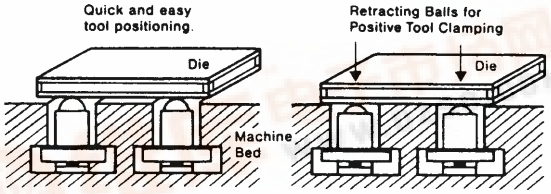
DIN 650			
a	b	c	h
22	37	16	38
28	46	20	48
36	56	25	61
24	42	18	42



SECURING TEE BLOCKS



APPLICATION OF TEE BLOCK



HEAVY DUTY UNITS 12mm–90mm DIA.

- LONGER LIFE
- BUILT TO WITHSTAND ROUGH USE
- CHROME STEEL BEARINGS
- SOLID MACHINED BODY
- DUST SEAL & SELF CLEANING HOLE
- HIGHER LOAD CAPACITY

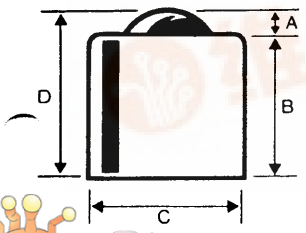
BALL DIA. (APPROX) M.M.	REF. No.	LOAD BALL UP	TYPE 21 BALL HEIGHT A	TYPE 21 BODY HEIGHT B	TYPE 21 BODY DIA. C	TYPE 21 OVERALL HEIGHT (EXCEPT TYPE 24) D	TYPE 21 FLANGE THICKNESS F	TYPE 22 FLANGE DIA. L	TYPE 22 FIXING HOLES SIZE	TYPE 22 FIXING HOLES No.	TYPE 22 FIXING HOLES P.C. DIA.	TYPE 23 HEIGHT UNDER FLANGE J	TYPE 23 SCREW DIA	TYPE 23 SCREW LENGTH	TYPE 23 SQR. PLATE	TYPE 24 PLATE THICKNESS M	TYPE 24 FIXING HOLES SIZE	TYPE 24 FIXING HOLES CENTRES	TYPE 24 OVERALL HEIGHT N
12·5 (½")	0519 *	25kg	2	18	20	20	4	32	3	2	26	8	M6	28	36	5	6	24	25
19 (¾")	3019	50kg	4	26	30	30	5	50	5	2	40	16	M8	25	46	5	6.5	31	35
25 (1")	1019	125kg	7	28	35	35	5	60	5	2	49	15	M8	40	50	5	6.5	35	40
32 (1¼")	1029	250kg	8	37	50	45	5	75	5	2	62.5	21	M10	40	64	5	7	49	50
40 (1⁹⁄₁₆")	2019	500kg	9	46	60	55	5	84	6	2	72	28	M12	50	80	5	7	60	60

ALL DIMENSIONS IN MILLIMETRES

TO ORDER STATE REF. NO AND TYPE

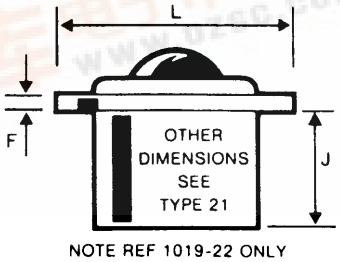
* NOTE:- 0519 ONLY – NO SEAL & NO SELF CLEAN HOLE

TYPE 21



C = 05mm

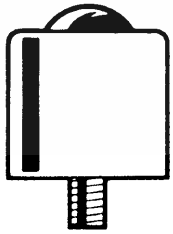
TYPE 22



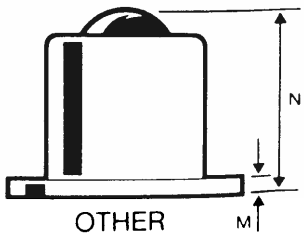
NOTE REF 1019-22 ONLY
DIA "C" IS 40mm

TYPE 23

OTHER DIMENSIONS AS TYPE 21



TYPE 24



OTHER DIMENSIONS AS TYPE 21

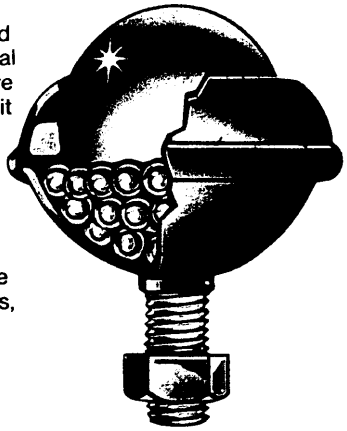
BE SURE SPECIFY ALWAYSE

TECHNICAL INFORMATION

The following applies to all Ball Units unless mentioned in the appropriate section.

ALWAYSE Ball Units consist of a large ball seated in a quantity of small bearings in a hemispherical cup. NOT JUST A SINGLE RING OF BALLS. There are from 80 to 150 bearings according to ball unit size. This design enables the large ball to rotate freely and instantaneously in ANY direction. Extremely heavy loads can be moved with the minimum of effort.

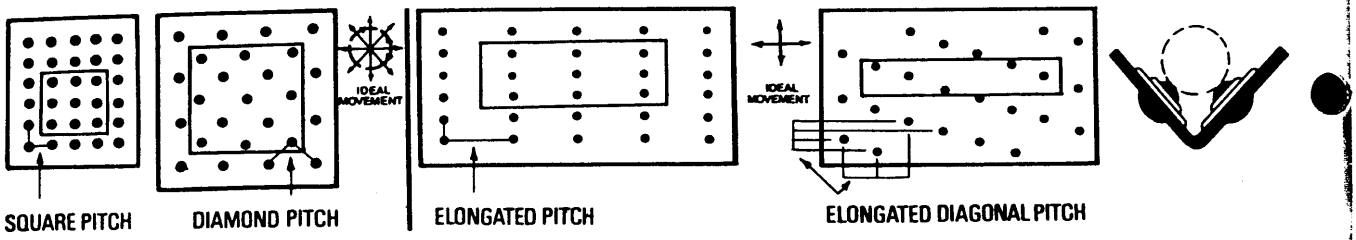
It should be noted that the load is supported through the centre line of the unit. It may also be applied offset, upwards, downwards or sideways, although this may affect stated loading (see appropriate table). Tubes and bars of varying diameters can also be conveyed.



TO DETERMINE BALL UNITS CAPACITY the weight of the article to be conveyed should be divided by 3. The result gives the maximum load which any single ball unit may have to bear. If the Ball Units are levelled accurately, then a larger number than 3 may be applied. The surface hardness and condition of the article to be conveyed should be taken into consideration to avoid undue ball penetration.

SPACING OF BALL UNITS. The pitch is obtained by dividing the narrowest dimension by 3.5 i.e. narrowest dimension 14" divided by 3.5 = pitch of 4" between ball centres, this ensures 3 units are beneath the narrowest dimension at any one time.

SOME BALL UNIT ARRANGEMENTS



TYPE	MATERIALS	TYPE	MATERIALS
13	Carbon steel bearings. 60-66 Hrc Ferrous steel zinc plated bearing shell	15	Stainless bearings. AISI 420. 55-58 Hrc Stainless pressing. AISI 304 (EN58E).
14	Nylon large ball, ferrous bearings and shell.	16	Stainless bearings. 55-58 Hrc Ferrous steel pressings.

LUBRICATION. Each Ball Unit is PRE-LUBRICATED during manufacture and normally does not require further attention. In certain applications we will advise on lubrication. Greasing or oiling points can be incorporated in some units.

CLEANING. A suitable cleaning or release fluid should be used if dirty conditions prevail. Paraffin or suitable detergent for washing through and WD40 for freeing. Also see 1500, HI-TECH 6025 range and Extra Tuf with improved seals.

SHOCK LOADS. When calculating loads bear in mind the possibility of impact from dropping, incorrect levels etc. Spring loading will considerably reduce wear and tear to the Ball Units where they are subject to continuous harsh shock treatment. The shock will be absorbed by the springs but the article will move easily on the spring supported units. Shock loading can be reduced by fitting pads under each unit.

RETRACTABLE BALL UNITS. Ball Units can be made retractable by means other than spring loading. Pneumatic or hydraulic cylinders and cams or levers can be fitted below units to enable them to be lifted. They can be programmed to operate in sequence with the movement of a machine.

SELF LEVELLING can be effected by fitting rubber pads under each unit. This allows any unit standing proud to be compressed to the mean level eliminating the possibility of excessive loading on a few units. Details on request.

SELF LOCKING. Spring loaded Ball Units permit an empty container to move freely into position, then stand firmly when additional load is applied (with Ball Units retracted).

SELF CLEANING. Most designs of ALWAYSE Ball Units have holes in the base of the bearing cup.

SEAL. A seal is incorporated to help resist ingress of dirt and swarf etc. Either Polyurethane foam or felt. Although it can be left out by request.

TEMPERATURE. (Minimum – 30°C to maximum 70°C continuous or 100°C intermittent), do not affect the running qualities but special seals may have to be fitted to suit prevailing conditions.
In clean conditions without seal 150°C-200°C is possible.

FINISHES. Standard Bright Zinc, Heviload Black, other finishes available.

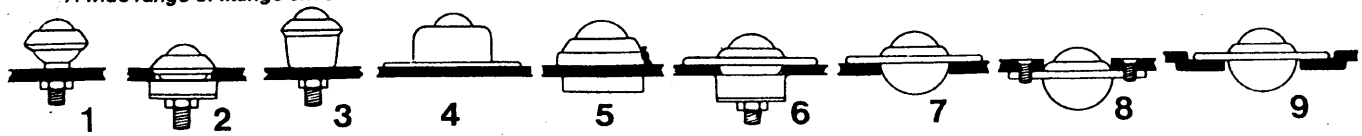
LARGE BEARINGS of Nylon, Phenolic, Bronze, Polypropylene, Hollow Steel etc. can be supplied.

FIXING. Refer to specific unit for method. Overtightening may cause damage.

BALL CASTORS. Many Castor applications can be solved with Ball Transfers.

15 Nm
MAX TORQUE
ALL NUTS

Illustrated below are various methods of fixing the standard range of 'Alwayse' Ball Units.
A wide range of fittings enable them to be used with metals, wood, plastics and slotted angle, etc.



Consult our Technical Department for further details.

All specifications subject to change without prior notice providing the product capabilities are not reduced.

We cannot accept liability for any verbal recommendations