

Molle per stampi ISO 10243

ISO 10243 die springs



CHOOSING A SPRING

Our points of strength / I nostri punti di forza

Determining which spring is best suited to a given situation is an extremely simple matter, thanks to the tables included in the catalogue, which provide the load and stroke in three different examples of deflection. The following chart shows the deflection values for each line of products.

Con l'aiuto delle tabelle del presente catalogo, che riportano i valori di carico e corsa in tre diverse ipotesi di deflessione di lavoro, selezionare la molla più indicata è un'operazione estremamente semplice. Il seguente prospetto raccoglie le deflessioni calcolate per ciascuna delle serie presentate.

STANDARD	SERIES SERIE	LOAD CARICO	LONG LIFE TOTAL DEFLECTION DEFLESSIONE TOTALE PER LUNGA DURATA	CYCLES CICLI	MAXIMUM WORKING TOTAL DEFLECTION / DEFLESSIONE TOTALE MASSIMA CONSENTITA	CYCLES CICLI	DEFLECTION TO SOLID DEFLESSIONE A BLOCCO
SUPER B FEDER	BS	EXTRA LIGHT EXTRA LEGGERO	35%	+3.000.000	50%	200.000	APPROX. 60%
ISO 10243	BG	LIGHT LEGGERO	30%	+3.000.000	40%	200.000	APPROX. 50%
ISO 10243	BA	MEDIUM MEDIO	25%	+3.000.000	37.5%	200.000	APPROX. 45%
ISO 10243	BR	HEAVY FORTE	20%	+3.000.000	30%	200.000	APPROX. 40%
ISO 10243	BY	EXTRA HEAVY EXTRA FORTE	17%	+5.000.000	25%	300.000	APPROX. 35%
SUPER B FEDER	BO	SUPER HEAVY SUPER FORTE	10%	+5.000.000	15%	500.000	APPROX. 20%

PROPERTIES

Thanks to the types of steel utilized and the thermal treatments the springs undergo, all the springs in the catalogue have a decidedly large range of operation, being able to operate at temperatures between -30 °C (-22 °F) and +250 °C (+482 °F)

PRESTAZIONI

Gli acciai impiegati e i trattamenti termici cui sono sottoposte tutte le molle a catalogo consentono un'elasticità d'impiego decisamente ampia, e permettono un utilizzo da una temperatura di -30 °C (-22 °F) a una di +250 °C (+482 °F).

GUIDELINES, SOME THINGS TO KEEP IN MIND

- 1 _ As far as the situation allows, give preference to the longest springs and to those meant for the lightest loads;
- 2 _ total deflection (pre-load + working stroke) larger than the maximum indicated in the catalogue must be avoided. We recommend that you also check it when you sharpen the tools into the mold;
- 3 _ always submit the springs to precompression equal to at least 5% of their effective length (at least 2 mm);
- 4 _ arrange the springs on a surface which will keep them aligned during operation;
- 5 _ place the springs in a deep housing, or else guide them using an internal pin, especially when $LO/D > 3$.

ALCUNE RACCOMANDAZIONI DA NON DIMENTICARE

- 1 _ per quanto consentito dalle esigenze di lavoro, scegliere le molle più lunghe e di carico inferiore;
- 2 _ vanno assolutamente evitate deflessioni totali (pre-carico + corsa di lavoro) superiori alla deflessione massima indicata a catalogo. Si consiglia di verificarlo anche quando si affilano gli utensili nello stampo;
- 3 _ sottoporre sempre le molle a precompressione, pari ad almeno il 5% della lunghezza libera (minimo 2 mm);
- 4 _ disporre le molle su di un piano d'appoggio che consenta loro di lavorare in asse;
- 5 _ inserire le molle in alloggiamento profondo, oppure guidarle con una spina interna, in particolare quando $Lo/D > 3$.



TOLERANCES

SPRING RATE: $\pm 10\%$;

FREE LENGTH: $\pm 1\%$, with a minimum of ± 0.75 mm;

EXTERNAL DIAMETER: always smaller than the diameter of the housing indicated in the catalogue;

INTERNAL DIAMETER: always larger than the diameter of the internal pin indicated in the catalogue.

HOW TO ORDER SPRINGS

In order to protect and preserve them during their time in storage, the springs are kept in boxes. The number of springs in each package is indicated in the last column of each product's information table. We suggest ordering amounts equivalent to a whole number of packages. Ordering is extremely simple: indicate the product code and the number of packages or of single springs desired.

For example: BS 32038 nr. 20

Corresponds to an order of 20 springs of the extra light line (black) having an external diameter of 32 mm and an effective length of 38 mm.

TOLLERANZE

RIGIDITÀ: $\pm 10\%$;

LUNGHEZZA LIBERA: $\pm 1\%$, con un minimo di $\pm 0,75$ mm;

DIAMETRO ESTERNO: sempre inferiore al diametro dell'alloggiamento indicato a catalogo;

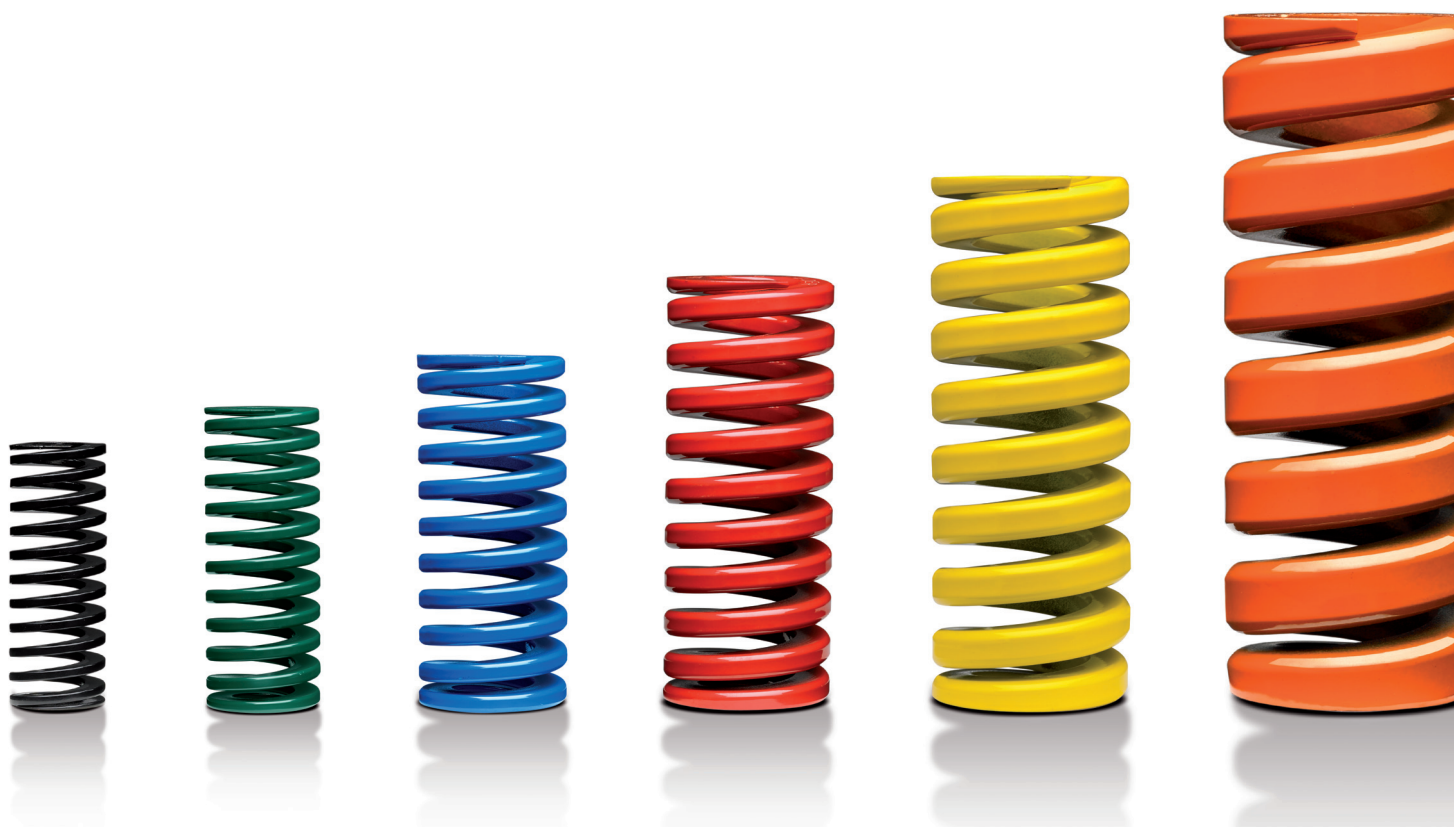
DIAMETRO INTERNO: sempre maggiore del diametro della spina di guida indicato a catalogo.

COME ORDINARE

Per proteggerle e conservarle durante la giacenza in magazzino, le molle a catalogo sono racchiuse in scatole. Il numero di molle contenuto in una confezione è indicato nell'ultima colonna di tabella per ogni articolo. Si consiglia di ordinare quantità corrispondenti a una confezione o a multipli di essa. Ordinarne un quantitativo è estremamente semplice: basta indicare il codice articolo e il numero di confezioni o di molle sfuse che si desidera acquistare.

Per Esempio: BS 32038 nr. 20

Corrisponde ad un ordinativo per 20 molle della serie extra leggera (colore nero) di diametro esterno 32 mm e lunghezza libera 38 mm.



Die spring ISO 10243

Product standards / Standard di prodotto

PARAMETERS

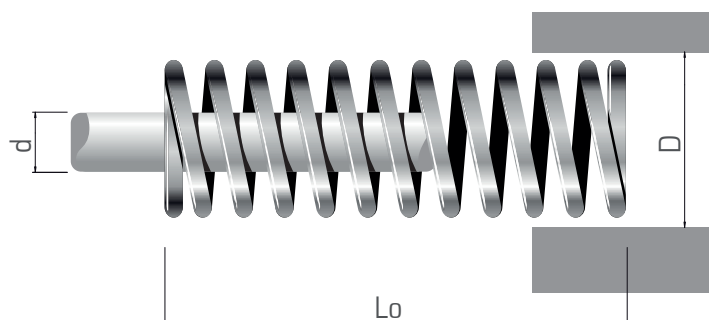
The ISO 10243 standard defines parameters for rectangular-section compression springs as follows:

- D** _ external diameter, equal to the diameter of the housing;
- d** _ internal diameter, equal to the diameter of the guide pin;
- Lo** _ effective length, the length of the spring at rest;
- R** _ load, in Newtons, necessary to deflect the spring by 1 mm (1 Newton = 0.102 kg = 0.499 lb).

QUALI PARAMETRI

Lo standard ISO 10243 definisce i parametri per le molle a compressione in filo a sezione rettangolare nel modo seguente:

- D** _ diametro esterno, corrispondente al diametro dell'alloggiamento;
- d** _ diametro interno, corrispondente al diametro della spina di guida;
- Lo** _ lunghezza libera, corrispondente alla lunghezza della molla a riposo;
- R** _ carico, espresso in Newton, necessario per deflettere la molla di 1 mm (1 Newton = 0,102 kg).



The standard also defines:

- _ maximum working deflection amounts for each spring;
- _ tolerance of effective length;
- _ colour coding of load.

Lo standard definisce anche:

- _ valori di deflessione massima di lavoro consentita per ciascuna molla;
- _ tolleranza della lunghezza libera;
- _ colori identificativi del carico.

SUPER B FEDER, SIX LINES UNDER ONE BRAND NAME.

The "Super B Feder" catalogue presents six spring design lines. Four lines conforming to the ISO 10243 standard:

- BG** _ green, light load;
- BA** _ blue, medium load;
- BR** _ red, heavy load;
- BY** _ yellow, extra-heavy load.

Two lines of springs having ISO standard diameters and lengths, but with some distinctive characteristics:

- BS** _ black, extra-light load, with working deflections of up to 50% of effective length;
- BO** _ orange, super-heavy load, for particularly large loads.

SUPER B FEDER, UN MARCHIO PER SEI SERIE.

Il presente catalogo "Super b feder" propone sei serie di molle. Quattro serie secondo lo standard ISO 10243:

- BG** _ colore verde, carico leggero;
- BA** _ colore blu, carico medio;
- BR** _ colore rosso, carico forte;
- BY** _ colore giallo, carico extraforte.

Due serie di molle con diametri e lunghezze come da standard ISO, ma aventi caratteristiche differenti:

- BS** _ colore nero, carico extra leggero, con corse di lavoro sino al 50% della lunghezza libera;
- BO** _ colore arancione, carico super forte, caratterizzate da carichi particolarmente elevati.

BS

EXTRA LIGHT LOAD / CARICO EXTRA LEGGERO

Super B feder

Colour / Colore
black / nero



BG

LIGHT LOAD / CARICO LEGGERO

Standard / Standard
ISO 10243

Colour / Colore
green / verde



BA

MEDIUM LOAD / CARICO MEDIO

Standard / Standard
ISO 10243

Colour / Colore
blue / blu



BR

HEAVY LOAD / CARICO FORTE

Standard / Standard
ISO 10243

Colour / Colore
red / rosso



BY

EXTRA HEAVY LOAD / CARICO EXTRA FORTE

Standard / Standard
ISO 10243

Colour / Colore
yellow / giallo



BO

SUPER HEAVY LOAD / CARICO SUPER FORTE

Super B feder

Colour / Colore
orange / arancio



BS

D

d

L₀

R

**35%**LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA**40%**AVERAGE WORKING DEFLECTION
DEFLESSIONE MEDIA
DI LAVORO**50%**MAX WORKING DEFLECTION
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BS 10025	10	5	25	8.5	8.8	74	10.0	85.0	12.5	106	100
BS 10032			32	6.5	11.2	74	12.8	83.2	16.0	104	100
BS 10038			38	5.5	13.3	74	15.2	83.6	19.0	105	100
BS 10045			44	5.0	15.4	77	17.6	88.0	22.0	110	100
BS 10050			51	4.5	17.9	80	20.4	91.8	25.5	115	100
BS 10065			64	3.3	22.4	74	25.6	84.5	32.0	106	50
BS 10075			76	3.2	26.6	85	30.4	97.3	38.0	122	50
BS 10303			305	0.6	106.8	64	122.0	73.2	152.5	92	20
BS 13025	12.5	6.3	25	15.5	8.8	136	10.0	155	12.5	194	100
BS 13032			32	12.2	11.2	137	12.8	156	16.0	195	100
BS 13038			38	10.3	13.3	137	15.2	157	19.0	196	100
BS 13045			44	8.7	15.4	134	17.6	153	22.0	191	100
BS 13050			51	7.5	17.9	134	20.4	153	25.5	191	100
BS 13065			64	5.8	22.4	130	25.6	149	32.0	186	50
BS 13075			76	4.7	26.6	125	30.4	143	38.0	179	50
BS 13090			89	4.1	31.2	128	35.6	146	44.5	182	50
BS 13101			102	3.6	35.7	129	40.8	147	51.0	184	50
BS 13303			305	1.2	106.8	128	122.0	146	152.5	183	20
BS 16025	16	8	25	20.2	8.8	177	10.0	202	12.5	253	100
BS 16032			32	14.4	11.2	161	12.8	184	16.0	230	100
BS 16038			38	12.3	13.3	164	15.2	187	19.0	234	100
BS 16045			44	10.6	15.4	163	17.6	187	22.0	233	100
BS 16050			51	8.9	17.9	159	20.4	182	25.5	227	100
BS 16065			64	7.0	22.4	157	25.6	179	32.0	224	50
BS 16075			76	5.8	26.6	154	30.4	176	38.0	220	50
BS 16090			89	4.8	31.2	150	35.6	171	44.5	214	50
BS 16101			102	4.0	35.7	143	40.8	163	51.0	204	50
BS 16115			115	3.9	40.3	157	46.0	179	57.5	224	50
BS 16303			305	1.5	106.8	160	122.0	183	152.5	229	20
BS 19025	20	10	25	32.1	8.8	281	10.0	321	12.5	401	100
BS 19032			32	24.7	11.2	277	12.8	316	16.0	395	100
BS 19038			38	20.7	13.3	275	15.2	315	19.0	393	100
BS 19045			44	17.8	15.4	275	17.6	313	22.0	392	100
BS 19050			51	15.3	17.9	273	20.4	312	25.5	390	100
BS 19065			64	12.1	22.4	270	25.6	310	32.0	386	50
BS 19075			76	10.2	26.6	271	30.4	310	38.0	386	50
BS 19090			89	8.6	31.2	269	35.6	306	44.5	384	50
BS 19101			102	7.5	35.7	269	40.8	306	51.0	384	50
BS 19115			115	6.7	40.3	269	46.0	308	57.5	384	20
BS 19126			127	6.1	44.5	270	50.8	310	63.5	386	20
BS 19140			139	5.5	48.7	269	55.6	306	69.5	385	20
BS 19151			152	5.1	53.2	269	60.8	310	76.0	384	20
BS 19303			305	2.5	106.8	266	122.0	305	152.5	384	10
BS 26025	25	12.5	25	52.7	8.8	461	10.0	527	12.5	658	100
BS 26032			32	40.0	11.2	448	12.8	512	16.0	640	50
BS 26038			38	33.3	13.3	444	15.2	506	19.0	634	50
BS 26045			44	28.6	15.4	440	17.6	503	22.0	629	50
BS 26050			51	24.7	17.9	441	20.4	504	25.5	630	50
BS 26065			64	19.4	22.4	435	25.6	497	32.0	622	50
BS 26075			76	16.3	26.6	433	30.4	496	38.0	618	20
BS 26090			89	13.9	31.2	433	35.6	495	44.5	618	20
BS 26101			102	12.1	35.7	433	40.8	494	51.0	618	20
BS 26115			115	10.8	40.3	433	46.0	497	57.5	619	20
BS 26126			127	9.8	44.5	434	50.8	498	63.5	620	10
BS 26140			139	8.9	48.7	433	55.6	495	69.5	618	10
BS 26151			152	8.1	53.2	431	60.8	493	76.0	616	10
BS 26176			178	6.9	62.3	431	71.2	491	89.0	616	10
BS 26202			203	6.1	71.1	431	81.2	495	101.5	615	10
BS 26303			305	4.0	106.8	429	122.0	488	152.5	613	5



35%
LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA



40%
AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO



50%
MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BS 32038	32	16	38	43.8	13.3	582	15.2	666	19.0	831	20
BS 32045			44	37.5	15.4	578	17.6	660	22.0	825	20
BS 32050			51	32.3	17.9	576	20.4	659	25.5	823	20
BS 32065			64	25.4	22.4	569	25.6	650	32.0	813	20
BS 32075			76	21.3	26.6	566	30.4	648	38.0	809	20
BS 32090			89	18.1	31.2	563	35.6	644	44.5	804	20
BS 32101			102	15.8	35.7	562	40.8	645	51.0	803	20
BS 32115			115	13.9	40.3	560	46.0	639	57.5	800	10
BS 32126			127	12.6	44.5	559	50.8	640	63.5	799	10
BS 32140			139	11.4	48.7	557	55.6	634	69.5	796	10
BS 32151			152	10.5	53.2	560	60.8	639	76.0	800	10
BS 32176			178	8.9	62.3	558	71.2	634	89.0	796	10
BS 32202			203	7.8	71.1	555	81.2	633	101.5	793	10
BS 32252			254	6.2	88.9	549	102.0	632	127.0	784	5
BS 32303			305	5.2	106.8	552	122.0	634	152.5	788	5
BS 38050	40	20	51	50.8	17.9	908	20.4	1036	25.5	1297	20
BS 38065			64	39.7	22.4	888	25.6	1016	32.0	1269	20
BS 38075			76	33.1	26.6	879	30.4	1006	38.0	1256	20
BS 38090			89	28.1	31.2	874	35.6	1000	44.5	1249	20
BS 38101			102	24.5	35.7	874	40.8	1000	51.0	1249	20
BS 38115			115	21.6	40.3	871	46.0	994	57.5	1244	10
BS 38126			127	19.5	44.5	867	50.8	991	63.5	1239	10
BS 38140			139	17.8	48.7	867	55.6	990	69.5	1238	10
BS 38151			152	16.3	53.2	865	60.8	991	76.0	1235	10
BS 38176			178	13.8	62.3	862	71.2	983	89.0	1231	10
BS 38202			203	12.1	71.1	863	81.2	983	101.5	1232	5
BS 38252			254	9.7	88.9	859	102.0	989	127.0	1227	5
BS 38303			305	8.0	106.8	858	122.0	976	152.5	1226	5
BS 51065	50	25	64	80.2	22.4	1796	25.6	2053	32.0	2566	20
BS 51075			76	66.9	26.6	1781	30.4	2034	38.0	2544	20
BS 51090			89	56.6	31.2	1763	35.6	2015	44.5	2519	10
BS 51101			102	49.3	35.7	1762	40.8	2011	51.0	2517	10
BS 51115			115	43.5	40.3	1751	46.0	2001	57.5	2501	10
BS 51126			127	39.3	44.5	1746	50.8	1996	63.5	2494	10
BS 51140			139	35.8	48.7	1742	55.6	1991	69.5	2489	10
BS 51151			152	32.8	53.2	1743	60.8	1994	76.0	2490	10
BS 51176			178	27.8	62.3	1731	71.2	1979	89.0	2474	5
BS 51202			203	24.2	71.1	1720	81.2	1965	101.5	2457	5
BS 51252			254	19.2	88.9	1711	102.0	1958	127.0	2444	5
BS 51303			305	16.0	106.8	1712	122.0	1952	152.5	2446	5
BS 63075	63	38	76	57.8	26.6	1537	30.4	1757	38.0	2196	20
BS 63090			89	51.4	31.2	1601	35.6	1830	44.5	2287	10
BS 63101			102	44.4	35.7	1585	40.8	1812	51.0	2264	10
BS 63115			115	41.6	40.3	1674	46.0	1914	57.5	2392	10
BS 63126			127	33.2	44.5	1476	50.8	1687	63.5	2108	10
BS 63151			152	27.4	53.2	1458	60.8	1666	76.0	2082	10
BS 63176			178	24.0	62.3	1495	71.2	1709	89.0	2136	5
BS 63202			203	21.0	71.1	1492	81.2	1705	101.5	2132	5
BS 63252			254	16.4	88.9	1458	102.0	1673	127.0	2083	5
BS 63303			305	13.6	106.8	1452	122.0	1659	152.5	2074	5



30%

LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA

35%

AVERAGE WORKING DEFLECTION
DEFLESSIONE MEDIA
DI LAVORO

40%

MAX WORKING DEFLECTION
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BG 10025	10	5	25	10.0	7.5	75.0	8.8	88.0	10.0	100.0	100
BG 10032			32	8.5	9.6	81.6	11.2	95.2	12.8	108.8	100
BG 10038			38	6.8	11.4	77.5	13.3	90.4	15.2	103.4	100
BG 10045			44	6.0	13.2	79.2	15.4	92.4	17.6	105.6	100
BG 10050			51	5.0	15.3	76.5	17.9	89.5	20.4	102.0	100
BG 10065			64	4.3	19.2	82.6	22.4	96.3	25.6	110.1	50
BG 10075			76	3.2	22.8	73.0	26.6	85.1	30.4	97.3	50
BG 10303			305	1.1	91.5	100.7	107.0	118.0	122.0	134.2	20
BG 13025	12.5	6.3	25	17.9	7.5	134.0	8.8	157.5	10.0	179.0	100
BG 13032			32	16.4	9.6	157.0	11.2	183.7	12.8	210.0	100
BG 13038			38	13.6	11.4	155.0	13.3	180.9	15.2	207.0	100
BG 13045			44	12.1	13.2	160.0	15.4	186.3	17.6	213.0	100
BG 13050			51	11.4	15.3	174.0	17.9	204.1	20.4	233.0	100
BG 13065			64	9.3	19.2	179.0	22.4	208.3	25.6	238.0	50
BG 13075			76	7.1	22.8	161.9	26.6	188.9	30.4	216.0	50
BG 13090			89	5.4	26.7	144.2	31.2	168.5	35.6	192.0	50
BG 13101			102	4.6	30.6	140.8	35.7	164.2	40.8	188.0	50
BG 13303			305	1.4	91.5	128.1	107.0	149.8	122.0	171.0	20
BG 16025	16	8	25	23.4	7.5	176.0	8.8	206.0	10.0	234.0	100
BG 16032			32	22.9	9.6	220.0	11.2	257.0	12.8	293.0	100
BG 16038			38	19.3	11.4	220.0	13.3	257.0	15.2	293.0	100
BG 16045			44	17.1	13.2	226.0	15.4	263.0	17.6	301.0	100
BG 16050			51	15.7	15.3	240.0	17.9	281.0	20.4	320.0	100
BG 16065			64	10.7	19.2	205.0	22.4	240.0	25.6	274.0	50
BG 16075			76	10.0	22.8	228.0	26.6	266.0	30.4	304.0	50
BG 16090			89	8.6	26.7	230.0	31.2	268.0	35.6	306.0	50
BG 16101			102	7.8	30.6	239.0	35.7	279.0	40.8	318.0	50
BG 16115			115	7.0	34.5	242.0	40.3	282.0	46.0	322.0	50
BG 16303			305	2.5	91.5	229.0	107.0	268.0	122.0	305.0	20
BG 19025	20	10	25	55.8	7.5	419.0	8.8	491.0	10.0	558.0	100
BG 19032			32	45.0	9.6	432.0	11.2	504.0	12.8	576.0	100
BG 19038			38	33.3	11.4	380.0	13.3	443.0	15.2	506.0	100
BG 19045			44	30.0	13.2	396.0	15.4	462.0	17.6	528.0	100
BG 19050			51	24.5	15.3	375.0	17.9	439.0	20.4	500.0	100
BG 19065			64	20.0	19.2	384.0	22.4	448.0	25.6	512.0	50
BG 19075			76	16.0	22.8	365.0	26.6	426.0	30.4	486.0	50
BG 19090			89	14.0	26.7	374.0	31.2	437.0	35.6	498.0	50
BG 19101			102	12.0	30.6	367.0	35.7	428.0	40.8	490.0	50
BG 19115			115	10.9	34.5	376.0	40.3	439.0	46.0	501.0	20
BG 19126			127	9.5	38.1	362.0	44.5	423.0	50.8	483.0	20
BG 19140			139	8.4	41.7	350.0	48.7	409.0	55.6	467.0	20
BG 19151			152	7.5	45.6	342.0	53.2	399.0	60.8	456.0	20
BG 19303			305	4.0	91.5	366.0	107.0	428.0	122.0	488.0	10
BG 26025	25	12.5	25	100.0	7.5	750.0	8.8	880.0	10.0	1000.0	100
BG 26032			32	80.3	9.6	771.0	11.2	899.0	12.8	1028.0	50
BG 26038			38	62.0	11.4	707.0	13.3	825.0	15.2	942.0	50
BG 26045			44	52.9	13.2	698.0	15.4	815.0	17.6	931.0	50
BG 26050			51	44.0	15.3	673.0	17.9	788.0	20.4	898.0	50
BG 26065			64	35.2	19.2	676.0	22.4	789.0	25.6	901.0	50
BG 26075			76	28.0	22.8	638.0	26.6	745.0	30.4	851.0	20
BG 26090			89	24.0	26.7	641.0	31.2	749.0	35.6	854.0	20
BG 26101			102	21.1	30.6	646.0	35.7	753.0	40.8	861.0	20
BG 26115			115	18.7	34.5	645.0	40.3	754.0	46.0	860.0	20
BG 26126			127	16.7	38.1	636.0	44.5	743.0	50.8	848.0	10
BG 26140			139	15.3	41.7	638.0	48.7	745.0	55.6	851.0	10
BG 26151			152	14.0	45.6	638.0	53.2	745.0	60.8	851.0	10
BG 26176			178	12.5	53.4	668.0	62.3	779.0	71.2	890.0	10
BG 26202			203	10.4	60.9	633.0	71.1	739.0	81.2	844.0	10
BG 26303			305	7.0	91.5	641.0	107.0	749.0	122.0	854.0	5





30%
LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA



35%
AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO



40%
MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BG 32038	32	16	38	94.0	11.4	1072	13.3	1250	15.2	1429	20
BG 32045			44	79.5	13.2	1049	15.4	1224	17.6	1399	20
BG 32050			51	67.0	15.3	1025	17.9	1199	20.4	1367	20
BG 32065			64	53.0	19.2	1018	22.4	1187	25.6	1357	20
BG 32075			76	44.0	22.8	1003	26.6	1170	30.4	1338	20
BG 32090			89	37.2	26.7	993	31.2	1161	35.6	1324	20
BG 32101			102	32.0	30.6	979	35.7	1142	40.8	1306	20
BG 32115			115	29.0	34.5	1001	40.3	1169	46.0	1334	10
BG 32126			127	25.0	38.1	953	44.5	1113	50.8	1270	10
BG 32140			139	23.0	41.7	959	48.7	1120	55.6	1279	10
BG 32151			152	21.5	45.6	980	53.2	1144	60.8	1307	10
BG 32176			178	18.2	53.4	972	62.3	1134	71.2	1296	10
BG 32202			203	15.8	60.9	962	71.1	1123	81.2	1283	10
BG 32252			254	12.5	76.2	953	88.9	1111	101.6	1270	5
BG 32303			305	10.3	91.5	942	107.0	1102	122.0	1257	5
BG 38050	40	20	51	92.0	15.3	1408	17.9	1647	20.4	1877	20
BG 38065			64	73.0	19.2	1402	22.4	1635	25.6	1869	20
BG 38075			76	63.0	22.8	1436	26.6	1676	30.4	1915	20
BG 38090			89	51.0	26.7	1362	31.2	1591	35.6	1816	20
BG 38101			102	43.0	30.6	1316	35.7	1535	40.8	1754	20
BG 38115			115	39.6	34.5	1366	40.3	1596	46.0	1822	10
BG 38126			127	37.0	38.1	1410	44.5	1647	50.8	1880	10
BG 38140			139	32.0	41.7	1334	48.7	1558	55.6	1779	10
BG 38151			152	28.0	45.6	1277	53.2	1490	60.8	1702	10
BG 38176			178	25.2	53.4	1346	62.3	1570	71.2	1794	10
BG 38202			203	22.7	60.9	1382	71.1	1614	81.2	1843	5
BG 38252			254	17.0	76.2	1295	88.9	1511	101.6	1727	5
BG 38303			305	14.8	91.5	1354	107.0	1584	122.0	1806	5
BG 51065	50	25	64	156.0	19.2	2995	22.4	3494	25.6	3994	20
BG 51075			76	125.0	22.8	2850	26.6	3325	30.4	3800	20
BG 51090			89	109.0	26.7	2910	31.2	3401	35.6	3880	10
BG 51101			102	94.0	30.6	2876	35.7	3356	40.8	3835	10
BG 51115			115	81.0	34.5	2795	40.3	3264	46.0	3726	10
BG 51126			127	71.0	38.1	2705	44.5	3160	50.8	3607	10
BG 51140			139	66.5	41.7	2773	48.7	3239	55.6	3697	10
BG 51151			152	60.0	45.6	2736	53.2	3192	60.8	3648	10
BG 51176			178	52.0	53.4	2777	62.3	3240	71.2	3702	5
BG 51202			203	44.0	60.9	2680	71.1	3128	81.2	3573	5
BG 51229			229	38.2	68.7	2624	80.15	3062	91.6	3499	5
BG 51252			254	35.0	76.2	2667	88.9	3112	101.6	3556	5
BG 51303			305	28.5	91.5	2608	107.0	3050	122.0	3477	5
BG 63075	63	38	76	189.0	22.8	4309	26.6	5027	30.4	5746	20
BG 63090			89	158.0	26.7	4219	31.2	4930	35.6	5625	10
BG 63101			102	131.0	30.6	4009	35.7	4677	40.8	5345	10
BG 63115			115	116.0	34.5	4002	40.3	4675	46.0	5336	10
BG 63126			127	103.0	38.1	3924	44.5	4584	50.8	5232	10
BG 63151			152	84.3	45.6	3844	53.2	4485	60.8	5125	10
BG 63176			178	71.5	53.4	3818	62.3	4454	71.2	5091	5
BG 63202			203	61.7	60.9	3758	71.1	4387	81.2	5010	5
BG 63252			254	47.0	76.2	3581	88.9	4178	101.6	4775	5
BG 63303			305	38.2	91.5	3495	107.0	4087	122.0	4660	5



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**25%**LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA**30%**AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO**37.5%**MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BA 10025	10	5	25	16.0	6.25	100	7.5	120	9.4	150	100
BA 10032			32	13.0	8.0	104	9.6	125	12.0	156	100
BA 10038			38	11.9	9.5	113	11.4	136	14.3	170	100
BA 10045			44	10.3	11.0	113	13.2	136	16.5	170	100
BA 10050			51	8.9	12.75	114	15.3	136	19.1	170	100
BA 10065			64	7.5	16.0	120	19.2	144	24.0	180	50
BA 10075			76	5.3	19.0	101	22.8	121	28.5	151	50
BA 10303			305	1.6	76.25	122	91.5	146	114.4	183	20
BA 13025	12.5	6.3	25	30.0	6.3	188	7.5	225	9.4	281	100
BA 13032			32	24.8	8.0	198	9.6	238	12.0	298	100
BA 13038			38	21.4	9.5	203	11.4	244	14.3	305	100
BA 13045			44	18.5	11.0	204	13.2	244	16.5	305	100
BA 13050			51	15.5	12.8	198	15.3	237	19.1	296	100
BA 13065			64	12.1	16.0	194	19.2	232	24.0	290	50
BA 13075			76	10.2	19.0	194	22.8	233	28.5	291	50
BA 13090			89	8.4	22.2	187	26.7	224	33.4	280	50
BA 13101			102	7.1	25.5	181	30.6	217	38.2	272	50
BA 13303			305	2.1	76.2	160	91.5	192	114.4	240	20
BA 16025	16	8	25	49.4	6.3	309	7.5	371	9.4	463	100
BA 16032			32	37.1	8.0	297	9.6	356	12.0	445	100
BA 16038			38	33.9	9.5	322	11.4	387	14.3	483	100
BA 16045			44	30.0	11.0	330	13.2	396	16.5	495	100
BA 16050			51	26.4	12.8	337	15.3	404	19.1	505	100
BA 16065			64	20.5	16.0	328	19.2	394	24.0	492	50
BA 16075			76	17.8	19.0	338	22.8	406	28.5	507	50
BA 16090			89	15.2	22.2	338	26.7	406	33.4	507	50
BA 16101			102	13.5	25.5	344	30.6	413	38.2	516	50
BA 16115			115	12.0	28.8	345	34.5	414	43.1	518	50
BA 16303			305	4.8	76.2	366	91.5	439	114.4	549	20
BA 19025	20	10	25	98.0	6.3	613	7.5	735	9.4	919	100
BA 19032			32	72.6	8.0	581	9.6	697	12.0	871	100
BA 19038			38	56.0	9.5	532	11.4	638	14.3	798	100
BA 19045			44	47.5	11.0	523	13.2	627	16.5	784	100
BA 19050			51	41.7	12.8	532	15.3	638	19.1	798	100
BA 19065			64	32.3	16.0	517	19.2	620	24.0	775	50
BA 19075			76	25.1	19.0	477	22.8	572	28.5	715	50
BA 19090			89	22.0	22.2	490	26.7	587	33.4	734	50
BA 19101			102	19.8	25.5	505	30.6	606	38.2	757	50
BA 19115			115	18.1	28.8	520	34.5	625	43.1	781	20
BA 19126			127	16.6	31.8	527	38.1	633	47.6	791	20
BA 19140			139	15.1	34.8	525	42.0	634	52.1	787	20
BA 19151			152	13.2	38.0	502	45.6	602	57.0	752	20
BA 19303			305	6.1	76.2	465	91.5	558	114.4	698	10
BA 26025	25	12.5	25	147.0	6.3	919	7.5	1103	9.4	1378	100
BA 26032			32	118.0	8.0	944	9.6	1133	12.0	1416	50
BA 26038			38	93.0	9.5	884	11.4	1060	14.3	1325	50
BA 26045			44	80.8	11.0	889	13.2	1067	16.5	1333	50
BA 26050			51	68.6	12.8	875	15.3	1050	19.1	1312	50
BA 26065			64	53.0	16.0	848	19.2	1018	24.0	1272	50
BA 26075			76	43.2	19.0	821	22.8	985	28.5	1231	20
BA 26090			89	38.2	22.2	850	26.7	1020	33.4	1275	20
BA 26101			102	33.0	25.5	842	30.6	1010	38.2	1262	20
BA 26115			115	28.0	28.8	805	34.5	966	43.1	1208	20
BA 26126			127	25.9	31.8	822	38.1	987	47.6	1233	10
BA 26140			139	23.2	34.8	806	42.0	974	52.1	1209	10
BA 26151			152	20.8	38.0	790	45.6	949	57.0	1186	10
BA 26176			178	17.8	44.5	792	53.4	951	66.8	1188	10
BA 26202			203	15.8	50.8	802	60.9	962	76.1	1203	10
BA 26303			305	10.2	76.2	778	91.5	933	114.4	1167	5

**25%**LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA**30%**AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO**37.5%**MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BA 32038	32	16	38	185.0	9.5	1758	11.4	2109	14.3	2636	20
BA 32045			44	158.0	11.0	1738	13.2	2086	16.5	2607	20
BA 32050			51	134.0	12.8	1709	15.3	2050	19.1	2563	20
BA 32065			64	99.0	16.0	1584	19.2	1901	24.0	2376	20
BA 32075			76	80.5	19.0	1530	22.8	1835	28.5	2294	20
BA 32090			89	69.1	22.2	1538	26.7	1845	33.4	2306	20
BA 32101			102	58.8	25.5	1499	30.6	1799	38.2	2249	20
BA 32115			115	51.5	28.8	1481	34.5	1777	43.1	2221	10
BA 32126			127	44.8	31.8	1422	38.1	1707	47.6	2134	10
BA 32140			139	42.3	34.8	1470	42.0	1777	52.1	2205	10
BA 32151			152	37.8	38.0	1436	45.6	1724	57.0	2155	10
BA 32176			178	32.5	44.5	1446	53.4	1736	66.8	2169	10
BA 32202			203	28.9	50.8	1467	60.9	1760	76.1	2200	10
BA 32252			254	21.4	63.5	1359	76.2	1631	95.2	2038	5
BA 32303			305	18.3	76.2	1395	91.5	1675	114.4	2093	5
BA 38050	40	20	51	181.6	12.8	2315	15.3	2779	19.1	3473	20
BA 38065			64	140.0	16.0	2240	19.2	2688	24.0	3360	20
BA 38075			76	108.0	19.0	2052	22.8	2462	28.5	3078	20
BA 38090			89	90.7	22.2	2018	26.7	2422	33.4	3027	20
BA 38101			102	81.0	25.5	2066	30.6	2479	38.2	3098	20
BA 38115			115	71.8	28.8	2064	34.5	2477	43.1	3096	10
BA 38126			127	62.7	31.8	1991	38.1	2389	47.6	2986	10
BA 38140			139	57.5	34.8	1998	42.0	2415	52.1	2997	10
BA 38151			152	51.6	38.0	1961	45.6	2353	57.0	2941	10
BA 38160			160	47.5	40.0	1900	48.0	2280	60.0	2850	10
BA 38176			178	44.1	44.5	1963	53.4	2355	66.8	2944	10
BA 38202			203	36.7	50.8	1863	60.9	2235	76.1	2794	5
BA 38252			254	30.1	63.5	1911	76.2	2294	95.2	2867	5
BA 38303			305	24.6	76.2	1876	91.5	2251	114.4	2814	5
BA 51065	50	25	64	209.0	16.0	3344	19.2	4013	24.0	5016	20
BA 51075			76	168.0	19.0	3192	22.8	3830	28.5	4788	20
BA 51090			89	140.0	22.2	3115	26.7	3738	33.4	4673	10
BA 51101			102	119.0	25.5	3035	30.6	3641	38.2	4552	10
BA 51115			115	106.0	28.8	3048	34.5	3657	43.1	4571	10
BA 51126			127	97.0	31.8	3080	38.1	3696	47.6	4620	10
BA 51140			139	87.0	34.8	3023	42.0	3654	52.1	4535	10
BA 51151			152	80.0	38.0	3040	45.6	3648	57.0	4560	10
BA 51160			160	76.0	40.0	3040	48.0	3648	60.0	4560	10
BA 51176			178	69.5	44.5	3093	53.4	3711	66.8	4639	5
BA 51202			203	59.8	50.8	3035	60.9	3642	76.1	4552	5
BA 51229			229	50.9	57.2	2914	68.7	3497	85.9	4371	5
BA 51252			254	43.9	63.5	2788	76.2	3345	95.2	4182	5
BA 51303			305	38.6	76.2	2943	91.5	3532	114.4	4415	5
BA 63075	63	38	76	312.0	19.0	5928	22.8	7114	28.5	8892	20
BA 63090			89	260.0	22.2	5785	26.7	6942	33.4	8678	10
BA 63101			102	221.0	25.5	5636	30.6	6763	38.2	8453	10
BA 63115			115	187.0	28.8	5376	34.5	6452	43.1	8064	10
BA 63126			127	168.0	31.8	5334	38.1	6401	47.6	8001	10
BA 63151			152	136.0	38.0	5168	45.6	6202	57.0	7752	10
BA 63160			160	128.0	40.0	5120	48.0	6144	60.0	7680	10
BA 63176			178	114.0	44.5	5073	53.4	6088	66.8	7610	5
BA 63202			203	100.0	50.8	5075	60.9	6090	76.1	7613	5
BA 63229			229	89.2	57.2	5107	68.7	6128	85.9	7660	5
BA 63252			254	78.4	63.5	4978	76.2	5974	95.2	7468	5
BA 63303			305	64.7	76.2	4933	91.5	5920	114.4	7400	5
BA 63315			315	62.8	78.8	4946	94.5	5935	118.1	7418	5
BA 63400			400	48.5	100.0	4850	120.0	5820	150.0	7275	5

BR**D****d****L₀****R****20%**LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA**25%**AVERAGE WORKING DEFLECTION
DEFLESSIONE MEDIA
DI LAVORO**30%**MAX WORKING DEFLECTION
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BR 10025	10	5	25	22.1	5.0	111	6.3	139	7.5	166	100
BR 10032			32	17.5	6.4	112	8.0	140	9.6	168	100
BR 10038			38	17.1	7.6	130	9.5	163	11.4	195	100
BR 10045			44	15.0	8.8	132	11.0	165	13.2	198	100
BR 10050			51	12.8	10.2	131	12.8	164	15.3	196	100
BR 10065			64	10.7	12.8	137	16.0	171	19.2	205	50
BR 10075			76	7.5	15.2	114	19.0	143	22.8	171	50
BR 10303			305	2.1	61.0	128	76.3	160	91.5	192	20
BR 13025	12.5	6.3	25	42.1	5.0	211	6.3	265	7.5	316	100
BR 13032			32	33.2	6.4	213	8.0	266	9.6	319	100
BR 13038			38	29.3	7.6	223	9.5	278	11.4	334	100
BR 13045			44	24.6	8.8	217	11.0	271	13.2	325	100
BR 13050			51	19.6	10.2	200	12.8	251	15.3	300	100
BR 13065			64	15.0	12.8	192	16.0	240	19.2	288	50
BR 13075			76	13.2	15.2	201	19.0	251	22.8	301	50
BR 13090			89	11.4	17.8	203	22.3	254	26.7	304	50
BR 13101			102	9.4	20.4	192	25.5	240	30.6	287	50
BR 13303			305	2.8	61.0	171	76.3	214	91.5	256	20
BR 16025	16	8	25	75.7	5.0	379	6.3	477	7.5	568	100
BR 16032			32	52.8	6.4	338	8.0	422	9.6	507	100
BR 16038			38	48.5	7.6	369	9.5	461	11.4	553	100
BR 16045			44	42.8	8.8	377	11.0	471	13.2	565	100
BR 16050			51	37.1	10.2	378	12.8	475	15.3	568	100
BR 16065			64	30.3	12.8	388	16.0	485	19.2	582	50
BR 16075			76	25.8	15.2	392	19.0	490	22.8	588	50
BR 16090			89	21.7	17.8	386	22.3	484	26.7	579	50
BR 16101			102	19.3	20.4	394	25.5	492	30.6	591	50
BR 16115			115	17.0	23.0	391	28.8	490	34.5	587	50
BR 16303			305	7.1	61.0	433	76.3	542	91.5	650	20
BR 19025	20	10	25	216.0	5.0	1080	6.3	1361	7.5	1620	100
BR 19032			32	168.0	6.4	1075	8.0	1344	9.6	1613	100
BR 19038			38	129.0	7.6	980	9.5	1226	11.4	1471	100
BR 19045			44	112.0	8.8	986	11.0	1232	13.2	1478	100
BR 19050			51	94.0	10.2	959	12.8	1203	15.3	1438	100
BR 19065			64	72.1	12.8	923	16.0	1154	19.2	1384	50
BR 19075			76	59.7	15.2	907	19.0	1134	22.8	1361	50
BR 19090			89	50.5	17.8	899	22.3	1126	26.7	1348	50
BR 19101			102	44.2	20.4	902	25.5	1127	30.6	1353	50
BR 19115			115	38.4	23.0	883	28.8	1106	34.5	1325	20
BR 19126			127	34.1	25.4	866	31.8	1084	38.1	1299	20
BR 19140			139	31.0	27.8	862	35.0	1085	41.7	1293	20
BR 19151			152	28.2	30.4	857	38.0	1072	45.6	1286	20
BR 19303			305	15.0	61.0	915	76.3	1145	91.5	1373	10
BR 26025	25	12.5	25	375.0	5.0	1875	6.3	2363	7.5	2813	100
BR 26032			32	297.0	6.4	1901	8.0	2376	9.6	2851	50
BR 26038			38	219.0	7.6	1664	9.5	2081	11.4	2497	50
BR 26045			44	187.0	8.8	1646	11.0	2057	13.2	2468	50
BR 26050			51	156.0	10.2	1591	12.8	1997	15.3	2387	50
BR 26065			64	123.0	12.8	1574	16.0	1968	19.2	2362	50
BR 26075			76	99.0	15.2	1505	19.0	1881	22.8	2257	20
BR 26090			89	84.0	17.8	1495	22.3	1873	26.7	2243	20
BR 26101			102	73.0	20.4	1489	25.5	1862	30.6	2234	20
BR 26115			115	65.0	23.0	1495	28.8	1872	34.5	2243	20
BR 26126			127	57.7	25.4	1466	31.8	1835	38.1	2198	10
BR 26140			139	52.7	27.8	1465	35.0	1845	41.7	2198	10
BR 26151			152	47.8	30.4	1453	38.0	1816	45.6	2180	10
BR 26176			178	41.0	35.6	1460	44.5	1825	53.4	2189	10
BR 26202			203	35.8	40.6	1454	50.8	1819	60.9	2180	10
BR 26303			305	22.9	61.0	1397	76.3	1747	91.5	2095	5

**20%**LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA**25%**AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO**30%**MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BR 32038	32	16	38	388.0	7.6	2949	9.5	3686	11.4	4423	20
BR 32045			44	324.0	8.8	2851	11.0	3564	13.2	4277	20
BR 32050			51	272.0	10.2	2774	12.8	3482	15.3	4162	20
BR 32065			64	212.0	12.8	2714	16.0	3392	19.2	4070	20
BR 32075			76	172.0	15.2	2614	19.0	3268	22.8	3922	20
BR 32090			89	141.0	17.8	2510	22.3	3144	26.7	3765	20
BR 32101			102	122.0	20.4	2489	25.5	3111	30.6	3733	20
BR 32115			115	107.0	23.0	2461	28.8	3082	34.5	3692	10
BR 32126			127	93.0	25.4	2362	31.8	2957	38.1	3543	10
BR 32140			139	86.0	27.8	2391	35.0	3010	41.7	3586	10
BR 32151			152	78.0	30.4	2371	38.0	2964	45.6	3557	10
BR 32176			178	67.2	35.6	2392	44.5	2990	53.4	3589	10
BR 32202			203	59.1	40.6	2400	50.8	3002	60.9	3599	10
BR 32252			254	46.4	50.8	2357	63.5	2946	76.2	3536	5
BR 32303			305	38.0	61.0	2318	76.3	2899	91.5	3477	5
BR 38050	40	20	51	350.0	10.2	3570	12.8	4480	15.3	5355	20
BR 38065			64	269.0	12.8	3443	16.0	4304	19.2	5165	20
BR 38075			76	219.0	15.2	3329	19.0	4161	22.8	4993	20
BR 38090			89	190.0	17.8	3382	22.3	4237	26.7	5073	20
BR 38101			102	163.0	20.4	3325	25.5	4157	30.6	4988	20
BR 38115			115	142.0	23.0	3266	28.8	4090	34.5	4899	10
BR 38126			127	128.0	25.4	3251	31.8	4070	38.1	4877	10
BR 38140			139	115.0	27.8	3197	35.0	4025	41.7	4796	10
BR 38151			152	105.0	30.4	3192	38.0	3990	45.6	4788	10
BR 38176			178	89.0	35.6	3168	44.5	3961	53.4	4753	10
BR 38202			203	77.0	40.6	3126	50.8	3912	60.9	4689	5
BR 38252			254	61.0	50.8	3099	63.5	3874	76.2	4648	5
BR 38303			305	51.0	61.0	3111	76.3	3891	91.5	4667	5
BR 51065	50	25	64	413.0	12.8	5286	16.0	6608	19.2	7930	20
BR 51075			76	339.0	15.2	5153	19.0	6441	22.8	7729	20
BR 51090			89	288.0	17.8	5126	22.3	6422	26.7	7690	10
BR 51101			102	245.0	20.4	4998	25.5	6248	30.6	7497	10
BR 51115			115	215.0	23.0	4945	28.8	6192	34.5	7418	10
BR 51126			127	192.0	25.4	4877	31.8	6106	38.1	7315	10
BR 51140			139	168.0	27.8	4670	35.0	5880	41.7	7006	10
BR 51151			152	154.0	30.4	4682	38.0	5852	45.6	7022	10
BR 51176			178	134.0	35.6	4770	44.5	5963	53.4	7156	5
BR 51202			203	117.0	40.6	4750	50.8	5944	60.9	7125	5
BR 51252			254	89.0	50.8	4521	63.5	5652	76.2	6782	5
BR 51303			305	73.0	61.0	4453	76.3	5570	91.5	6680	5
BR 63075	63	38	76	630.0	15.2	9576	19.0	11970	22.8	14364	20
BR 63090			89	485.0	17.8	8633	22.3	10816	26.7	12950	10
BR 63101			102	434.0	20.4	8854	25.5	11067	30.6	13280	10
BR 63115			115	384.0	23.0	8832	28.8	11059	34.5	13248	10
BR 63126			127	349.0	25.4	8865	31.8	11098	38.1	13297	10
BR 63151			152	276.0	30.4	8390	38.0	10488	45.6	12586	10
BR 63176			178	237.0	35.6	8437	44.5	10547	53.4	12656	5
BR 63202			203	210.0	40.6	8526	50.8	10668	60.9	12789	5
BR 63252			254	165.0	50.8	8382	63.5	10478	76.2	12573	5
BR 63303			305	134.0	61.0	8174	76.3	10224	91.5	12261	5

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17%

LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA

22.5%

AVERAGE WORKING DEFLECTION
DEFLESSIONE MEDIA
DI LAVORO

25%

MAX WORKING DEFLECTION
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BY 10025	10	5	25	36.8	4.3	158	5.6	206	6.3	232	100
BY 10032			32	27.9	5.4	152	7.2	201	8.0	223	100
BY 10038			38	23.7	6.5	153	8.6	204	9.5	225	100
BY 10045			44	19.2	7.5	144	9.9	190	11.0	211	100
BY 10050			51	16.5	8.7	143	11.5	190	12.75	211	100
BY 10065			64	13.2	10.9	144	14.4	190	16.0	211	50
BY 10075			76	10.9	12.9	141	17.1	186	19.0	207	50
BY 10303			305	2.6	51.9	135	68.6	178	76.25	198	20
BY 13025	12.5	6.3	25	58.5	4.3	249	5.6	328	6.3	366	100
BY 13032			32	43.9	5.4	239	7.2	316	8.0	351	100
BY 13038			38	36.0	6.5	233	8.6	310	9.5	342	100
BY 13045			44	30.3	7.5	227	9.9	300	11.0	333	100
BY 13050			51	26.2	8.7	227	11.5	301	12.8	334	100
BY 13065			64	21.2	10.9	231	14.4	305	16.0	339	50
BY 13075			76	17.1	12.9	221	17.1	292	19.0	325	50
BY 13090			89	14.5	15.1	219	20.0	290	22.2	323	50
BY 13101			102	12.5	17.3	217	23.0	288	25.5	319	50
BY 13303			305	4.3	51.9	223	68.6	295	76.2	328	20
BY 16025	16	8	25	118.0	4.3	502	5.6	661	6.3	738	100
BY 16032			32	89.0	5.4	484	7.2	641	8.0	712	100
BY 16038			38	72.1	6.5	466	8.6	620	9.5	685	100
BY 16045			44	60.9	7.5	456	9.9	603	11.0	670	100
BY 16050			51	52.3	8.7	453	11.5	601	12.8	667	100
BY 16065			64	41.2	10.9	448	14.4	593	16.0	659	50
BY 16075			76	34.1	12.9	441	17.1	583	19.0	648	50
BY 16090			89	29.5	15.1	446	20.0	590	22.2	656	50
BY 16101			102	25.6	17.3	444	23.0	589	25.5	653	50
BY 16115			115	22.8	19.6	446	25.9	591	28.8	656	50
BY 16303			305	8.4	51.9	436	68.6	576	76.2	641	20
BY 19025	20	10	25	293.0	4.3	1245	5.6	1641	6.3	1831	100
BY 19032			32	224.0	5.4	1219	7.2	1613	8.0	1792	100
BY 19038			38	177.0	6.5	1143	8.6	1522	9.5	1682	100
BY 19045			44	149.0	7.5	1115	9.9	1475	11.0	1639	100
BY 19050			51	128.0	8.7	1110	11.5	1472	12.8	1632	100
BY 19065			64	99.0	10.9	1077	14.4	1426	16.0	1584	50
BY 19075			76	81.7	12.9	1056	17.1	1397	19.0	1552	50
BY 19090			89	69.5	15.1	1052	20.0	1390	22.2	1546	50
BY 19101			102	60.6	17.3	1051	23.0	1394	25.5	1545	50
BY 19115			115	53.0	19.6	1036	25.9	1373	28.8	1524	20
BY 19126			127	47.5	21.6	1026	28.6	1359	31.8	1508	20
BY 19140			139	43.0	23.6	1016	31.3	1346	34.8	1494	20
BY 19151			152	39.0	25.8	1008	34.2	1334	38.0	1482	20
BY 19303			305	21.2	51.9	1099	68.6	1454	76.2	1617	10
BY 26025	25	12.5	25	488.0	4.3	2098	5.6	2733	6.3	3074	100
BY 26032			32	374.4	5.4	2037	7.2	2696	8.0	2995	50
BY 26038			38	346.0	6.5	2235	8.6	2976	9.5	3287	50
BY 26045			44	244.0	7.5	1825	9.9	2416	11.0	2684	50
BY 26050			51	207.5	8.7	1799	11.5	2386	12.8	2646	50
BY 26065			64	161.0	10.9	1752	14.4	2318	16.0	2576	50
BY 26075			76	130.8	12.9	1690	17.1	2237	19.0	2485	20
BY 26090			89	110.5	15.1	1672	20.0	2210	22.2	2459	20
BY 26101			102	96.3	17.3	1670	23.0	2215	25.5	2456	20
BY 26115			115	85.7	19.6	1675	25.9	2220	28.8	2464	20
BY 26126			127	76.3	21.6	1647	28.6	2182	31.8	2423	10
BY 26140			139	69.5	23.6	1642	31.3	2175	34.8	2415	10
BY 26151			152	63.5	25.8	1641	34.2	2172	38.0	2413	10
BY 26176			178	53.9	30.3	1631	40.1	2161	44.5	2399	10
BY 26202			203	47.0	34.5	1622	45.7	2148	50.8	2385	10
BY 26303			305	30.9	51.9	1602	68.6	2120	76.2	2356	5

EXTRA HEAVY LOAD / CARICO EXTRA FORTE





17%
LONG LIFE DEFECTION
DEFLESSIONE PER
LUNGA DURATA



22.5%
AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO



25%
MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BY 32038	32	16	38	528.2	6.5	3412	8.6	4543	9.5	5018	20
BY 32045			44	424.4	7.5	3175	9.9	4202	11.0	4668	20
BY 32050			51	353.0	8.7	3061	11.5	4060	12.8	4501	20
BY 32065			64	269.2	10.9	2929	14.4	3877	16.0	4307	20
BY 32075			76	218.5	12.9	2823	17.1	3736	19.0	4152	20
BY 32090			89	180.3	15.1	2728	20.0	3606	22.2	4012	20
BY 32101			102	155.0	17.3	2688	23.0	3565	25.5	3953	20
BY 32115			115	140.0	19.6	2737	25.9	3626	28.8	4025	10
BY 32126			127	124.0	21.6	2677	28.6	3546	31.8	3937	10
BY 32140			139	112.0	23.6	2647	31.3	3506	34.8	3892	10
BY 32151			152	102.0	25.8	2636	34.2	3488	38.0	3876	10
BY 32176			178	88.2	30.3	2669	40.1	3537	44.5	3925	10
BY 32202			203	76.0	34.5	2623	45.7	3473	50.8	3857	10
BY 32252			254	60.8	43.2	2625	57.2	3478	63.5	3861	5
BY 32303			305	49.0	51.9	2541	68.6	3361	76.2	3736	5
BY 38050	40	20	51	628.0	8.7	5445	11.5	7222	12.75	8007	20
BY 38065			64	487.0	10.9	5299	14.4	7013	16.0	7792	20
BY 38075			76	379.0	12.9	4897	17.1	6481	19.0	7201	20
BY 38090			89	321.0	15.1	4857	20.0	6420	22.25	7142	20
BY 38101			102	281.0	17.3	4873	23.0	6463	25.5	7166	20
BY 38115			115	245.0	19.6	4790	25.9	6346	28.75	7044	10
BY 38126			127	221.0	21.6	4771	28.6	6321	31.75	7017	10
BY 38140			139	195.0	23.6	4608	31.3	6104	34.75	6776	10
BY 38151			152	168.0	25.8	4341	34.2	5746	38.0	6384	10
BY 38176			178	150.0	30.3	4545	40.1	6015	44.5	6675	10
BY 38202			203	132.0	34.5	4555	45.7	6032	50.75	6699	5
BY 38252			254	107.0	43.2	4620	57.2	6120	63.5	6794,5	5
BY 38303			305	87.8	51.9	4552	68.6	6023	76.25	6695	5
BY 51065	50	25	64	709.0	10.9	7714	14.4	10210	16.0	11344	20
BY 51075			76	572.0	12.9	7390	17.1	9781	19.0	10868	20
BY 51090			89	475.0	15.1	7187	20.0	9500	22.2	10569	10
BY 51101			102	405.0	17.3	7023	23.0	9315	25.5	10328	10
BY 51115			115	352.0	19.6	6882	25.9	9117	28.8	10120	10
BY 51126			127	316.0	21.6	6822	28.6	9038	31.8	10033	10
BY 51140			139	289.0	23.6	6829	31.3	9046	34.8	10043	10
BY 51151			152	239.0	25.8	6176	34.2	8174	38.0	9082	10
BY 51176			178	216.0	30.3	6536	40.1	8662	44.5	9612	5
BY 51202			203	187.0	34.5	6453	45.7	8546	50.8	9490	5
BY 51252			254	153.0	43.2	6607	57.2	8752	63.5	9716	5
BY 51303			305	127.0	51.9	6585	68.6	8712	76.2	9684	5
BY 63075	63	38	76	842.0	12.9	10879	17.1	14398	19.0	15998	20
BY 63090			89	726.0	15.1	10984	20.0	14520	22.3	16154	10
BY 63101			102	656.0	17.3	11375	23.0	15088	25.5	16728	10
BY 63115			115	534.0	19.6	10440	25.9	13831	28.8	15353	10
BY 63126			127	480.0	21.6	10363	28.6	13728	31.8	15240	10
BY 63151			152	396.0	25.8	10233	34.2	13543	38.0	15048	10
BY 63176			178	335.0	30.3	10137	40.1	13434	44.5	14908	5
BY 63202			203	297.0	34.5	10250	45.7	13573	50.8	15073	5
BY 63252			254	235.0	43.2	10147	57.2	13442	63.5	14923	5
BY 63303			305	194.0	51.9	10059	68.6	13308	76.2	14793	5

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10%

LONG LIFE DEFLECTION
DEFLESSIONE PER
LUNGA DURATA

13.5%

AVERAGE WORKING DEFLECTION
DEFLESSIONE MEDIA
DI LAVORO

15%

MAX WORKING DEFLECTION
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BO 10025	10	5	25	167	2.5	418	3.3	551	3.8	626	100
BO 10032			32	130	3.2	416	4.3	559	4.8	624	100
BO 10038			38	105	3.8	399	5.1	536	5.7	599	100
BO 10044			44	86	4.4	378	5.9	507	6.6	568	100
BO 10051			51	79	5.1	403	6.9	545	7.7	604	50
BO 10064			64	62	6.4	397	8.6	533	9.6	595	50
BO 10076			76	51	7.6	388	10.3	525	11.4	581	50
BO 13025	12.5	6.3	25	288	2.5	720	3.3	950	3.75	1080	100
BO 13032			32	216	3.2	691	4.3	929	4.8	1037	100
BO 13038			38	176	3.8	669	5.1	898	5.7	1003	100
BO 13044			44	149	4.4	656	5.9	879	6.6	983	100
BO 13051			51	128	5.1	653	6.9	883	7.7	979	50
BO 13064			64	100	6.4	640	8.6	860	9.6	960	50
BO 13076			76	84	7.6	638	10.3	865	11.4	958	50
BO 13089			89	71	8.9	632	12.0	852	13.4	948	50
BO 13102			102	61	10.2	622	13.8	842	15.3	933	50
BO 16032	16	8	32	449	3.2	1437	4.3	1931	4.8	2155	100
BO 16038			38	363	3.8	1379	5.1	1851	5.7	2069	100
BO 16044			44	309	4.4	1360	5.9	1823	6.6	2039	100
BO 16051			51	256	5.1	1306	6.9	1766	7.7	1958	100
BO 16064			64	203	6.4	1299	8.6	1746	9.6	1949	50
BO 16076			76	166	7.6	1262	10.3	1710	11.4	1892	50
BO 16089			89	139	8.9	1237	12.0	1668	13.4	1856	50
BO 16102			102	114	10.2	1163	13.8	1573	15.3	1744	50
BO 16115			115	105	11.5	1208	15.5	1628	17.2	1811	50
BO 16127			127	94	12.7	1194	17.1	1607	19.1	1791	20
BO 16152			152	69	15.2	1049	20.5	1415	22.8	1573	20
BO 16305			305	37	30.5	1129	41.2	1524	45.8	1693	20
BO 19044	20	10	44	452	4.4	1989	5.9	2667	6.6	2983	50
BO 19051			51	378	5.1	1928	6.9	2608	7.7	2892	50
BO 19064			64	301	6.4	1926	8.6	2589	9.6	2890	50
BO 19076			76	247	7.6	1877	10.3	2544	11.4	2816	20
BO 19089			89	208	8.9	1851	12.0	2496	13.4	2777	20
BO 19102			102	188	10.2	1918	13.8	2594	15.3	2876	20
BO 19115			115	159	11.5	1829	15.5	2465	17.2	2743	20
BO 19127			127	146	12.7	1854	17.1	2497	19.1	2781	20
BO 19152			152	121	15.2	1839	20.5	2481	22.8	2759	20
BO 19305			305	60	30.5	1830	41.2	2472	45.8	2745	10
BO 25044	25	12.5	44	1158	4.4	5095	5.9	6832	6.6	7643	50
BO 25051			51	933	5.1	4758	6.9	6438	7.7	7137	50
BO 25064			64	730	6.4	4672	8.6	6278	9.6	7008	50
BO 25076			76	556	7.6	4226	10.3	5727	11.4	6338	20
BO 25089			89	462	8.9	4112	12.0	5544	13.4	6168	20
BO 25102			102	390	10.2	3978	13.8	5382	15.3	5967	20
BO 25115			115	360	11.5	4140	15.5	5580	17.2	6210	20
BO 25127			127	326	12.7	4140	17.1	5575	19.05	6210	10
BO 25152			152	255	15.2	3876	20.5	5228	22.8	5814	10
BO 25178			178	230	17.8	4094	24.0	5520	26.7	6141	10
BO 25203			203	202	20.3	4101	27.4	5535	30.4	6151	10
BO 25305			305	136	30.5	4148	41.2	5600	45.8	6222	5

SUPER HEAVY LOAD / CARICO SUPER FORTE



10%
LONG LIFE DEFECTION
DEFLESSIONE PER
LUNGA DURATA



13.5%
AVERAGE WORKING DEFL.
DEFLESSIONE MEDIA
DI LAVORO



15%
MAX WORKING DEFL.
DEFLESSIONE MAX
DI LAVORO

CTLG. NR. CODICE	HOUSING SEDE Ø mm	ROD SPINA Ø mm	FREE LENGTH LUNGH. LIBERA mm	RATE RIGIDITÀ N/mm	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	DEFLECTION DEFLESSIONE mm	LOAD CARICO N	NR. PCS NR. PEZZI
BO 32044	32	16	44	1300	4.4	5720	5.9	7670	6.6	8580	20
BO 32051			51	1150	5.1	5865	6.9	7935	7.7	8798	20
BO 32064			64	887	6.4	5677	8.6	7628	9.6	8515	20
BO 32076			76	733	7.6	5571	10.3	7550	11.4	8356	20
BO 32089			89	612	8.9	5447	12.0	7344	13.4	8170	20
BO 32102			102	544	10.2	5549	13.8	7507	15.3	8323	20
BO 32115			115	494	11.5	5681	15.5	7657	17.2	8522	10
BO 32127			127	432	12.7	5486	17.1	7387	19.1	8230	10
BO 32152			152	356	15.2	5411	20.5	7298	22.8	8117	10
BO 32178			178	304	17.8	5411	24.0	7296	26.7	8117	10
BO 32203			203	265	20.3	5380	27.4	7261	30.4	8069	10
BO 32254			254	214	25.4	5436	34.3	7340	38.1	8153	5
BO 32305			305	177	30.5	5399	41.2	7292	45.8	8098	5
BO 38064	40	20	64	1228	6.4	7859	8.6	10561	9.6	11789	20
BO 38076			76	1017	7.6	7729	10.2	10373	11.4	11594	20
BO 38089			89	880	8.9	7832	12.0	10560	13.4	11748	20
BO 38102			102	762	10.2	7772	13.8	10516	15.3	11659	20
BO 38115			115	679	11.5	7809	15.5	10525	17.3	11713	10
BO 38127			127	622	12.7	7899	17.1	10636	19.1	11849	10
BO 38152			152	509	15.2	7737	20.5	10435	22.8	11605	10
BO 38178			178	429	17.8	7636	24.0	10296	26.7	11454	10
BO 38203			203	374	20.3	7592	27.4	10248	30.4	11388	5
BO 38254			254	296	25.4	7518	34.3	10153	38.1	11278	5
BO 38305			305	246	30.5	7503	41.2	10135	45.8	11255	5
BO 50064	50	25	64	1980	6.4	12672	8.6	17028	9.6	19008	20
BO 50076			76	1811	7.6	13764	10.2	18472	11.4	20645	20
BO 50089			89	1410	8.9	12549	12.0	16920	13.4	18824	10
BO 50102			102	1215	10.2	12393	13.8	16767	15.3	18590	10
BO 50115			115	1076	11.5	12374	15.5	16678	17.3	18561	10
BO 50127			127	968	12.7	12294	17.1	16553	19.1	18440	10
BO 50152			152	806	15.2	12251	20.5	16523	22.8	18377	10
BO 50178			178	698	17.8	12424	24.0	16752	26.7	18637	5
BO 50203			203	612	20.3	12424	27.4	16769	30.4	18635	5
BO 50254			254	472	25.4	11989	34.3	16190	38.1	17983	5
BO 50305			305	388	30.5	11834	41.2	15986	45.8	17751	5
BO 63089	63	38	89	1517	12.0	18204	12.6	19114	17.8	27003	10
BO 63102			102	1295	13.8	17871	14.5	18778	20.9	27066	10
BO 63115			115	1070	15.5	16585	17.5	18725	25.1	26857	10
BO 63127			127	979	17.1	16741	19.1	18699	27.3	26727	10
BO 63152			152	775	20.5	15888	24.3	18833	34.2	26505	10
BO 63178			178	630	24.0	15120	29.4	18522	41.8	26334	5
BO 63203			203	546	27.4	14960	33.9	18509	48.5	26481	5
BO 63254			254	423	34.3	14509	44.5	18824	62.2	26311	5
BO 63305			305	349	41.2	14379	53.4	18637	74.7	26070	5