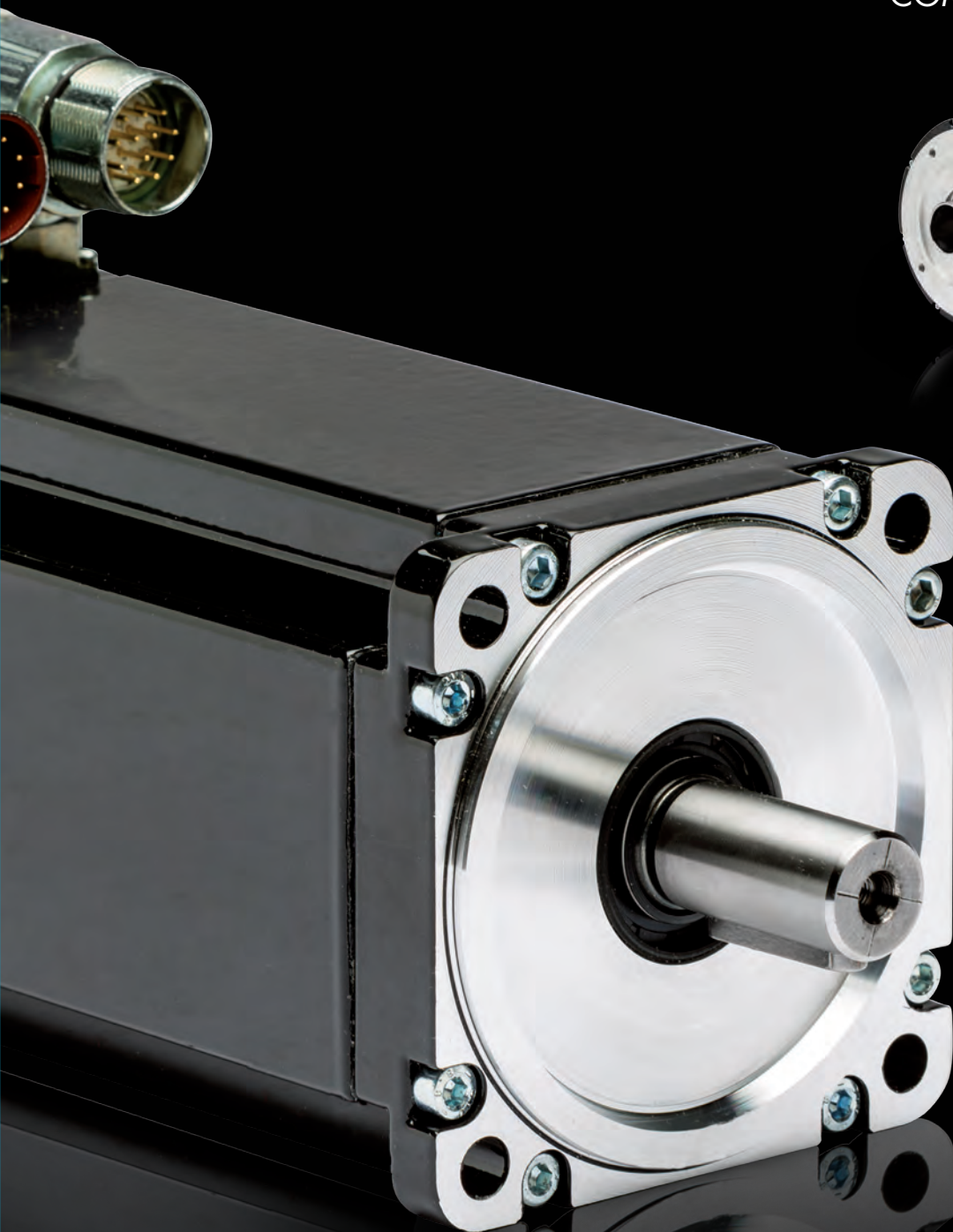


SERVO MOTORS

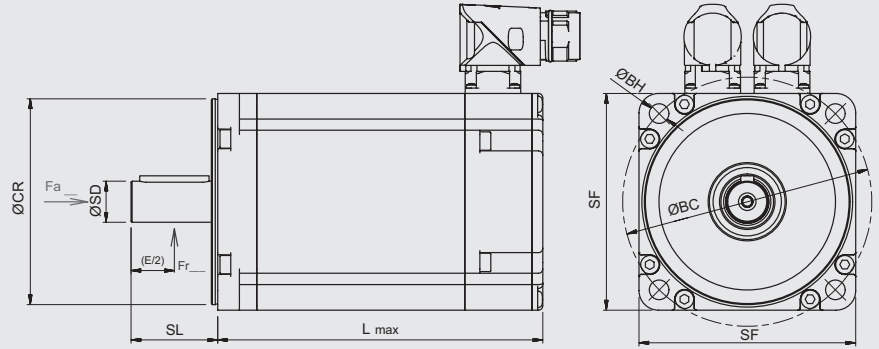
BRUSHLESS SERVO MOTORS
COMPACT SERVO MOTORS
TORQUE MOTORS



MORE FEATURES

- Drive End cooling (liquid coolant)
- Low voltage special winding
- Water cooling (jacket) for medium and large size motors
- Fly - connectors for cabling
- 230V application
- One cable solution
- Safety application
- **ATEX Certification** - II 3G Ex nA IIC T155°C (T3) Gc and II 3D Ex tc IIIC T135°C Dc (a dedicated brochure is available)

cURus



BRUSHLESS SERVO MOTORS

STANDARD FEATURES

- Torque range 0.18 to 390 Nm; rated speed up to 6000 rpm
- Superior performance, high torque accuracy
- High dynamics and acceleration
- High overload capability
- Compact design with high power density
- Wide range of transducers: resolver, incremental and absolute encoders
- Forced ventilation (fan cooling) option available
- IP65 protection; TENV construction
- All motors available with brake as an option
- Deep background to meet any special mechanical and electrical design
- Excellent flexibility to meet specific market demands

OPTIONAL FEATURES

- cURus certification
- Atex certification
- Special rotor balancing grade
- Special rotor inertia
- Customised flange and special shaft
- Other (type of encoder and connector, brake, thermal sensor,...)

TARGET APPLICATIONS

- Material Handling
- Printing
- Material working
- Packaging machines
- Textile machines
- Plastic machines
- Robots

Type	Square flange SF [mm]	Torque [Nm]	Rated speed [rpm]	Centring diameter ø - CD [mm]	Bolt circle diameter ø - BC [mm]	Shaft diameter ø - SD [mm]	Shaft length SL [mm]
B20Q	40	0.18 to 0.32	6000	Ø30h7	46	8h6	20/25
B28Q	58	0.25 to 1.25	3000 – 6000	Ø40j6	63	9j6	20
B30J	60	0.7 to 1.4	6000	Ø50h7	70	14h6	25/30
B36Q	70	0.6 to 1.8	3000 – 6000	Ø60j6	75	11j6	23
	70	2.4 to 3	3000 – 6000	Ø60j6	75	14j6	30
B40J	80	0.7 to 2.7	3000 – 6000	Ø70h7	90	16h6	35/40
B56Q	91.3	1.35 to 4.5	3000 – 6000	Ø80j6	100	14j6	30
B63Q	100	4 to 10	3000 – 4500 – 6000	Ø95j6	115	19k6	40
B63Y	116	6 to 8	3000 – 4500	Ø110j6	130	19j6	40
	116	10 to 14	3000 – 4500	Ø110j6	130	24j6	50
B71Q	142	4.5 to 26	2000 – 3000 – 4500	Ø130j6	165	24k6	50
	142	29 to 38	2000 – 3000 – 4500	Ø130j6	165	28k6	58
B100J	190	20 to 42	2000 – 3000	Ø180j6	215	32k6	58
	190	56 to 80	2000 – 3000	Ø180j6	215	38k6	80
B132I	240	42 to 73	1500 – 2000 – 3000	Ø230j6	265	38k6	80
	240	81 to 120	1500 – 2000 – 3000	Ø230j6	265	42k6	110
B160Q	270	140 to 240	1500 – 2000 – 3000	Ø250h7	300	55m6	110
	270	300	1500 – 2000 – 2500	Ø250h7	300	60m6	140



THE RANGE

Lafert offers a wide range of permanent magnet synchronous servo motors and torque motors. The Lafert range of servo motors grants precise engineering and superior performance.

Thanks to its whole integrated manufacturing process, Lafert can supply standard and tailor-made products for **Industrial Automation** giving **excellent flexibility** and **cost efficiency**.



TORQUE MOTORS

STANDARD FEATURES

- Torque range 10 to 510 Nm and rated speed up to 1000 rpm
- High torque at low speed; low noise level
- High overload capability
- Energy Efficient through the whole speed range
- Different coupling shaft available: standard key, blind hole, hollow shaft
- Water cooling options available for medium and large size motors
- Optimal for machines' strong integration

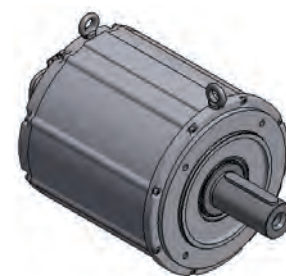
OPTIONAL FEATURES

- cURus certification
- Customised flange and special shaft
- Other (type of encoder and connector, thermal sensor, ...)

TARGET APPLICATIONS

- Material Handling
- Printing
- Material working
- Textile machines
- Plastic machines

B16P



B18P



Type	Square flange [mm]	Torque [Nm]	Rated speed [rpm]	Centring diameter ø - CD [mm]	Bolt circle diameter ø - BC [mm]	Shaft diameter ø - SD [mm]	Shaft internal diameter ø [mm]	Shaft length SL [mm]
B10P	225	10 to 20	500 – 1000	Ø130j6	165	32	30	80
B16P	275	50 to 200	300 – 500 - 1000	Ø180j6	215	55	55	110
B18P	386	115 to 510	300	Ø250j6	300	75	80	140

MOTOR TYPE CODES USED

DIGIT	DESCRIPTION				
x	PRODUCT TYPE				
	B	Complete Brushless Servo Motors			
	F	Brushless Servo Motors components			
aa	STANDARD MOTOR SIZE			TORQUE MOTOR SIZE	
	B20Q	□ Flange 40	B10	□ Flange typical 225	
	B28Q	□ Flange 58	B16	□ Flange typical 275	
	B30J	□ Flange 60	B18	□ Flange typical 386	
	B36Q	□ Flange 70			
	B40J	□ Flange 80			
	B56Q	□ Flange 91.3			
	B63Q	□ Flange 100			
	B63Y	□ Flange 116			
	B71Q	□ Flange 142			
	B100J	□ Flange 190			
	B132I	□ Flange 240			
B160Q	□ Flange 270				
bb	STALL TORQUE CODE				
	Integer: digit + digit		Fractional: letter + digit (x)		Over hundred: letter + digit or letter
	02	2 Nm	Dx	0.x Nm	Over Threehundred: digit + digir + digit
	12	12 Nm	Ex	1.x Nm	300 300 Nm
	25	25 Nm	Fx	2.x Nm	375 375 Nm
	...	etc...	Gx	3.x Nm	460 460 Nm
			Hx	4.x Nm	... etc..
			Ix	5.x Nm	
			Lx	6.x Nm	
			Mx	7.x Nm	
			Nx	8.x Nm	
			Ox	9.x Nm	
c	SINUSOIDAL STANDARD MOTOR TYPE			SINUSOIDAL TORQUE MOTOR TYPE	
	Size	Series	Description	Size	Series
	20	Q	8 poles	10	P
	28	Q	8 poles	16	P
	30	J	10 poles	18	P
	36	Q	8 poles		
	40	J	10 poles		
	56	Q	8 poles		
	63	Q	8 poles		
	63	Y	10 poles		
	71	Q	8 poles		
	100	J	10 poles		
	132	I	6 poles		
	160	Q	8 poles		
d	SPEED				
	1	1000 rpm	A	1500 rpm	P
	2	2000 rpm	B	2500 rpm	Q
	3	3000 rpm	C	3500 rpm	R
	4	4000 rpm	D	4500 rpm	O
	6	6000 rpm			
e	VOLTAGE				
	H	380/400V	M	220/230V (on request)	
f	CONNECTION TYPE				
	4	Straight connectors on endshield			
	7	Turnable 90° angled connectors			
	8	Y-TEC connectors			
	Terminal box construction to be evaluated on special request only				
Single connector design available on request depending on transducer requirements					

MOTOR TYPE CODES USED

DIGIT		DESCRIPTION		
g	BRAKE AND SHAFT EXTENSION			
	A	Without brake, keyed shaft	D	Without brake, smooth shaft
	B	With brake, keyed shaft	E	With brake, smooth shaft
	C	With reinforced brake, keyed shaft	F	With reinforced brake, smooth shaft
hh	FEEDBACK*		* Availability of each feedback system and/or ppr to be evaluated on the motor size	
	00	Without feedback		
	RESOLVER		INCREMENTAL ENCODER With Hall sensors and 0 reference mark	
	05	Resolver 2 poles	E9	1000 ppr
	A5	Resolver 4 poles	09	1024 ppr
	SIN / COS HIPERFACE ENCODER		L9	2000 ppr
			F9	2048 ppr
			RS Single-turn 1024 sin/cos Stegmann SRS50	
			RM Multi-turn 1024 sin/cos, 4096 rev. Stegmann SRM50	
	EK Single-turn 16 sin/cos Stegmann SEK37			
EL Multi-turn 16 sin/cos, 4096 rev. Stegmann SEL37				
KS Single-turn 128 sin/cos Stegmann SKS36				
KM Multi-turn 128 sin/cos, 4096 rev. Stegmann SKM36				
LE Single-turn 18 bits DSL, Stegmann EKS36				
LF Multi-turn 18 bits DSL, Stegmann EKM36				
EnDat or other Hiperface encoders available on request				
i	CONNECTION DIRECTION			
	0	Standard	2	Position 2
l	COOLING SYSTEM			
	0	Natural convection	V	Forced Ventilation 230Vac from B-Flange to A-Flange
			X	Forced Ventilation 24Vdc from B-Flange to A-Flange
mm	CUSTOMER OPTION			

Eg.:	x	aa	bb	c	d	e	f	g	hh	i	l	mm	*
	B	63	08	Q	3	H	4	A	05	0	0	00	-EX

*-EX only for ATEX motor

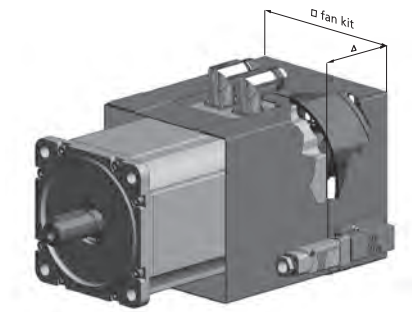
FORCED VENTILATION

Forced ventilation available for B63Q, B71Q, B100J, B132I and B160Q series.

For precise increase and torque performances, please refer to the Technical Catalogue.

Type	Voltage V	Power consumption W	Fan kit square mm	Δ L mm
B63Q*	24 Vdc	11	122 x 122	87
	230 Vac, 50/60 Hz	12		
B71Q	24 Vdc	12	164 x 164	98
	230 Vac, 50/60 Hz	47		
B100J	24 Vdc	12	212 x 212	110
	230 Vac, 50/60 Hz	47		
B132I	24 Vdc	12	246 x 246	116
	230 Vac, 50/60 Hz	47		
B160Q	24 Vdc	105	295 x 295	175
	230 Vac, 50/60 Hz	136/185		

*For series B63Q only, motor length with encoder= motor length with resolver + ΔL



ELECTRICAL DATA BRUSHLESS SERVO MOTORS

SELF COOLED

Type	Stall torque ($\Delta t=105^{\circ}\text{C}$)	Rated torque ($\Delta t=105^{\circ}\text{C}$)	Stall current	Rated current	Rated speed	Moment of Inertia	Length with resolver	
	M ₀ Nm	M _n Nm	I ₀ Arms	I _n Arms	n 1/min	J 10 ⁻⁴ Kg·m ²	Without brake L mm	With Brake L mm
B20.D2Q	0.18	0.15	0.62	0.52	6000	0.02	79	102
B20.D3Q	0.32	0.28	0.68	0.6	6000	0.03	94	117
B28.D2Q	0.25	0.24	0.34	0.33	6000	0.07	86.5	116.5
B28.D5Q	0.5	0.47	0.69	0.65	6000	0.13	98.5	128.5
B28.D7Q	0.75	0.70	1.03	0.96	6000	0.19	110.5	140.5
B28.01Q	1.0	0.93	1.37	1.28	6000	0.25	122.5	152.5
B28.E2Q	1.25	1.16	1.72	1.59	6000	0.31	134.5	164.5
B30.D7J	0.7	0.6	0.86	0.74	6000	0.22	84.5	113.5
B30.E4J	1.4	1.1	1.72	1.35	6000	0.41	105	134
B36.D6Q	0.6	0.5	0.8	0.7	6000	0.25	112	147
B36.E2Q	1.2	1.0	1.6	1.4	6000	0.44	127	162
B36.E8Q	1.8	1.5	2.5	2.1	6000	0.63	142	177
B36.F4Q	2.4	2.0	3.3	2.7	6000	1.05	167	198
B36.03Q	3.0	2.4	4.1	3.3	6000	1.22	182	213
B40.E4J	1.4	1.2	0.86	0.74	3000	1.13	86	116
B40.F4J	2.7	2.4	1.66	1.47	3000	1.73	97.5	127.5
B56.E3Q	1.35	1.3	0.8	0.8	3000	0.47	122	157
B56.F6Q	2.6	2.5	1.6	1.5	3000	0.88	145	180
B56.G5Q	3.5	3.1	2.1	1.9	3000	1.09	160	195
B56.H5Q	4.5	3.9	2.8	2.4	3000	1.40	180	215
B63.04Q	4	3.50	2.5	2.1	3000	1.87	150	182
B63.06Q	6	5.25	3.7	3.2	3000	2.67	170	203
B63.08Q	8	7.50	4.9	4.6	3000	3.47	194	226
B63.10Q	10	8.75	6.1	5.4	3000	4.27	214	246
B63.06Y	6	5.5	3.7	3.4	3000	7.76	168	204.5
B63.08Y	8	7.0	4.9	4.3	3000	10.4	183	219.5
B63.10Y	10	8.5	6.1	5.2	3000	12.4	198	234.5
B63.12Y	12	10.1	7.4	6.2	3000	14.9	213	249.5
B63.14Y	14	11.8	8.6	7.2	3000	18.2	233	269.5
B71.04Q	4.5	4.2	1.8	1.7	2000	3.6	148	183
B71.08Q	9	8.1	3.7	3.3	2000	6.0	173	208
B71.12Q	12.5	11.8	5.1	4.8	2000	8.2	198	228
B71.16Q	16	15.1	6.6	6.2	2000	10.7	223	253
B71.20Q	20	18.5	8.2	7.6	2000	13.1	248	273
B71.26Q	26	22.4	10.6	9.2	2000	18.4	298	318
B71.29Q	29	23.9	11.9	9.8	2000	20.6	338	373
B71.32Q	32	25.5	13.1	10.4	2000	23.0	360	395
B71.35Q	35	26.7	14.3	10.9	2000	25.5	383	418
B71.38Q	38	28.0	15.6	11.5	2000	28.0	405	440
B10.20J	20	18.3	8.2	7.5	2000	33	195	225
B10.28J	28	24.7	11.4	10.1	2000	46	218	248
B10.36J	36	30.1	14.7	12.3	2000	60	240	270
B10.42J	42	36.1	17.2	14.8	2000	74	263	293
B10.56J	56	44.5	22.9	18.2	2000	102	308	338
B10.68J	68	50.9	27.8	20.8	2000	130	353	383
B10.80J	80	57.8	32.7	23.6	2000	158	414	444
B13.42I	42	35.5	12.9	10.9	1500	65	293	343
B13.58I	58	47.0	17.8	14.4	1500	90	333	383
B13.73I	73	58.5	22.4	17.9	1500	114	373	423
B13.81I	81	65.0	24.8	19.9	1500	126	393	444
B13.98I	98	77.5	30.1	23.8	1500	150	433	483
B13.C2I	120	94.5	36.8	29.0	1500	192	493	543
B16.C4Q	140	86	57	35	2000	290	422	502
B16.C8Q	180	115	74	47	2000	373	482	562
B16.B4Q	240	148	98	61	2000	497	572	652
B16.300Q	300	191	123	78	2000	622	662	742

ELECTRICAL DATA BRUSHLESS SERVO MOTORS

AIR COOLED

Type	Stall torque ($\Delta t=105^{\circ}\text{C}$)	Rated torque ($\Delta t=105^{\circ}\text{C}$)	Stall current	Rated current	Rated speed	Moment of Inertia	Length with resolver	
	Mo Nm	Mn Nm	Io Arms	In Arms	n 1/min	J 10 ⁻⁴ Kgm2	Without brake L mm	With Brake L mm
B63.04Q	4.8	4.4	2.9	2.7	3000	1.87	237	296
B63.06Q	7.4	6.8	4.5	4.2	3000	2.67	257	290
B63.08Q	10.1	9.4	6.2	5.8	3000	3.47	281	313
B63.10Q	13	11.8	8.0	7.2	3000	4.27	301	333
B71.04Q	6	5.6	2.5	2.3	2000	3.6	246	281
B71.08Q	12	11.0	4.9	4.5	2000	6.0	271	306
B71.12Q	17	15.8	7.0	6.5	2000	8.2	296	326
B71.16Q	22	20.5	9.0	8.4	2000	10.7	321	351
B71.20Q	27.5	25.5	11.3	10.4	2000	13.1	346	371
B71.26Q	35.5	33.5	14.5	13.7	2000	18.4	396	416
B71.29Q	40	39.2	16.4	16.1	2000	20.6	436	471
B71.32Q	44	42.6	18.0	17.4	2000	23.0	458	493
B71.35Q	48	46.1	19.7	18.9	2000	25.5	481	516
B71.38Q	52	49.7	21.3	20.4	2000	28.0	503	538
B10.20J	26	24.2	10.6	9.9	2000	33	305	335
B10.28J	36.4	33.1	14.9	13.5	2000	46	328	358
B10.36J	47.2	42.1	19.3	17.2	2000	60	350	380
B10.42J	55.4	50.0	22.7	20.4	2000	74	373	403
B10.56J	74.5	61.7	30.4	25.2	2000	102	418	448
B10.68J	91.1	70.8	37.2	28.9	2000	130	463	493
B10.80J	108	80.3	44.1	32.8	2000	158	524	554
B13.42I	61	56.0	18.7	17.2	1500	65	409	459
B13.58I	84	77.5	25.8	23.8	1500	90	449	499
B13.73I	105	98.0	32.2	30.1	1500	114	489	539
B13.81I	116	109.0	35.6	33.4	1500	126	509	559
B13.98I	136	125.0	41.7	38.3	1500	150	549	599
B13.C2I	162	142.0	49.7	43.6	1500	192	609	659
B16.C4Q	180	155	74	63	2000	290	597	677
B16.C8Q	234	200	96	82	2000	373	657	737
B16.B4Q	312	270	128	111	2000	497	747	827
B16.300Q	390	335	160	137	2000	622	837	917

ELECTRICAL DATA TORQUE MOTORS

Type	Stall torque ($\Delta t=105^{\circ}\text{C}$)	Rated torque ($\Delta t=105^{\circ}\text{C}$)	Stall current	Rated current	Rated speed	Moment of Inertia	Length with resolver
	Mo Nm	Mn Nm	Io Arms	In Arms	n 1/min	J 10 ⁻⁴ Kgm2	L mm
B10.10P	10	9.6	1.03	0.99	500	40	160
B10.20P	20	19.0	2.06	1.96	500	80	160
B16.50P	50	48	3.0	2.9	300	409	230
B16.C0P	100	95	6.0	5.7	300	784	280
B16.C5P	150	142	8.9	8.5	300	1159	330
B16.B0P	200	188	11.9	11.2	300	1534	380
B18.CBP	115	100	7.1	6.1	300	1600	259
B18.BCP	225	196	13.8	12.0	300	3000	309
B18.325P	325	263	20.0	16.2	300	4400	359
B18.420P	420	290	25.8	17.8	300	5800	409
B18.510P	510	315	31.3	19.3	300	7200	459

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