

# NDCM

NDCM



## Червячные мотор-редукторы с цилиндрической ступенью

### Руководство по эксплуатации

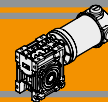


Архангельск (8182)63-90-72  
Астана (7172)727-132  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89  
Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Казань (843)206-01-48

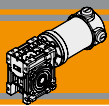
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
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Нижний Новгород (831)429-08-12  
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Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78

Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93



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## Caratteristiche tecniche

## Technical features

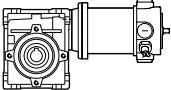
Le caratteristiche principali dei motoriduttori CC a vite senza fine a magneti permanenti in neodimio NDCM sono:

The main features of NDCM neodymium permanent magnets DC wormgearmotors range are:

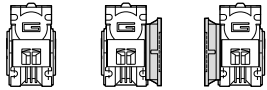
- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder
- Potenze motore disponibili da 160 a 250 W S2
- Magneti in Neodimio
- Carcasse dei riduttori a vite senza fine in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Low voltage power supply 12/24 Vdc
- Suitable for encoder assembly
- Motor power ratings available from 160 to 250 W S2
- Neodymium magnets
- Die-cast aluminum housing on wormgearboxes
- Permanent synthetic oil long-life lubrication

## Designazione

## Classification

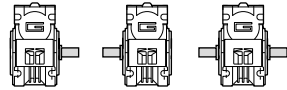
MOTORIDUTTORE / GEARMOTOR									
NDCM	120/030		U	10	SZDX	BRSX	90	240	VS
Tipo Type	Grandezza Size		Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Versione Motore Motor Version	Opzioni Options
	120/026	180/026	U	Vedere tabella See tables	SZDX SZSX DZ	BRDX BRSX	0° 90° 180° 270°	120 — 240	VS
	120/030	180/030	FD						
	120/040	180/040	FS FLD FLS FBD FBS						

Versione Riduttore  
Gearbox Version



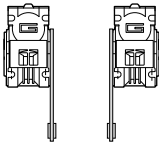
U    FD    FS  
FLD    FLD  
FBD    FLS  
FBS    FBS

Albero di uscita  
Output shaft



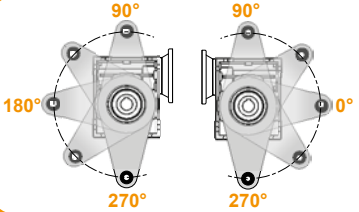
SZDX    SZSX    DZ

Braccio di reazione  
Torque arm



BRDX    BRSX

Angolo  
Angle

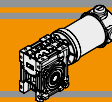


90°    90°  
180°    0°  
270°    270°

## Simbologia

## Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / Input speed	$R_d$ %	Rendimento dinamico / Dynamic efficiency
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / Output speed	$A_2$ [N]	Carico assiale ammissibile in uscita / Permitted output axial load
$i$	Rapporto di riduzione / Ratio	$R_s$ %	Rendimento statico / Static efficiency
$P_1$ [kW]	Potenza in entrata / Input power	$R_2$ [N]	Carico radiale ammissibile in uscita / Permitted output radial load
$M_2$ [Nm]	Coppia in uscita in funzione di $P_1$ / Output torque referred to $P_1$	$Z$	Numero di principi della vite / Worm starts
$sf$	Fattore di servizio / Service factor	$\beta$	Angolo d'elica / Helix angle



**Lubrificazione**

**Lubrication**

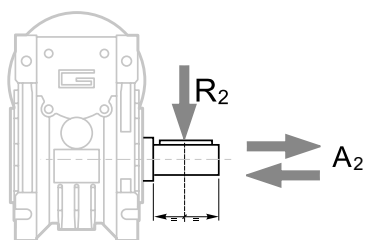
I riduttori a vite senza fine della serie CM sono lubrificati a vita con olio sintetico di viscosità 320 e possono essere installati in qualunque posizione di montaggio.

*Permanent synthetic oil long-life lubrication allow to use CM wormgearbox range in all mounting position.*

**Carichi radiali**

**Radial loads**

NDCM

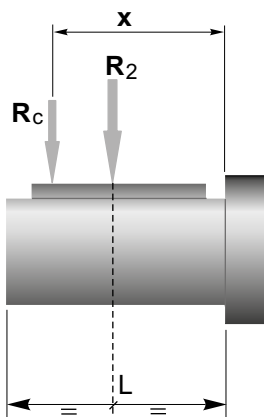


$A_2 = R_2 \times 0.2$

$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]		
	CM026	CM030	CM040
187	400	674	1264
140	490	743	1392
93	580	851	1596
70	610	936	1754
56	610	1008	1890
47	610	1069	2004
35	610	1179	2210
28	610	1270	2381
23	610	1356	2542
18	610	1471	2759
14	610	1600	3000

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

*When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:*

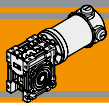


$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

*a, b = valori riportati nella tabella  
a, b = values given in the table*

	CM		
	026	030	040
a	56	65	84
b	43	50	64
$R_{2MAX}$	610	1600	3000



### Dati di dentatura

### Toothing data

	Dati della coppia vite-corona Worm wheel data	Rapporto / Ratio											
		5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	Z	6	4	3	2	2		1	1	1	1		
	$\beta$	34° 35'	24° 41'	19° 1'	12° 57'	10° 30'		6° 33'	5° 17'	4° 26'	3° 49'		
CM030	Z	6	4	3	2	2	2	1	1	1	1	1	1
	$\beta$	27° 4'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'
CM040	Z	6	4	3	2	2	2	1	1	1	1	1	1
	$\beta$	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'

### Rendimento

### Efficiency

	$n_1$ [min <sup>-1</sup> ]	Rendimento Efficiency	Rapporto / Ratio											
			5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	2800	Rd	89	87	85	83	80		73	68	64	60		
	1400		87	84	83	78	74		66	61	57	53		
	900		84	83	80	75	71		61	57	52	48		
			Rs	72	71	68	61	56		46	41	36	34	
CM030	2800	Rd	89	88	86	84	81	78	74	70	65	62	57	52
	1400		86	85	84	79	75	72	67	62	58	55	48	43
	900		84	83	81	75	71	68	62	58	53	49	43	39
			Rs	72	67	63	55	50	43	39	35	31	27	23
CM040	2800	Rd	90	89	87	84	83	80	77	73	69	66	60	56
	1400		88	86	84	81	78	74	70	65	60	58	52	46
	900		86	84	82	77	74	70	66	60	57	53	46	41
			Rs	74	71	67	60	55	51	45	40	36	32	28

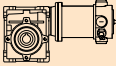
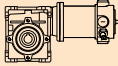


**Rendimento teorico del riduttore dopo il rodaggio**  
Theoretical efficiency of the gearbox after the first running period



**Dati tecnici per servizio S2**

**Technical data for S2 duty**

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>160</b>							<b>250</b>						
(3000 min <sup>-1</sup> )	<b>600</b>	2	4.4	5	<b>120/026</b>	<b>120/240</b>	(3000 min <sup>-1</sup> )	<b>600</b>	4	2.8	5	<b>180/026</b>	<b>120/240</b>
	<b>400</b>	3	3.3	7.5	<b>120/026</b>			<b>400</b>	5	2.1	7.5	<b>180/026</b>	
	<b>300</b>	4	2.5	10	<b>120/026</b>			<b>300</b>	7	1.6	10	<b>180/026</b>	
	<b>200</b>	6	1.7	15	<b>120/026</b>			<b>200</b>	10	1.1	15	<b>180/026</b>	
	<b>150</b>	8	1.3	20	<b>120/026</b>			<b>150</b>	13	0.9	20	<b>180/026</b>	
	<b>100</b>	11	1.1	30	<b>120/026</b>			<b>100</b>	17	0.7	30	<b>180/026</b>	
	<b>75</b>	14	0.8	40	<b>120/026</b>			<b>75</b>	16	0.7	40	<b>180/026</b>	
	<b>60</b>	14	0.7	50	<b>120/026</b>			<b>60</b>	14	0.7	50	<b>180/026</b>	
	<b>50</b>	13	0.7	60	<b>120/026</b>			<b>50</b>	13	0.7	60	<b>180/026</b>	
	<b>600</b>	2	5.7	5	<b>120/030</b>	<b>120/240</b>		<b>600</b>	4	3.7	5	<b>180/030</b>	<b>120/240</b>
	<b>400</b>	3	4.5	7.5	<b>120/030</b>			<b>400</b>	5	2.9	7.5	<b>180/030</b>	
	<b>300</b>	4	3.7	10	<b>120/030</b>			<b>300</b>	7	2.3	10	<b>180/030</b>	
	<b>200</b>	6	2.5	15	<b>120/030</b>			<b>200</b>	10	1.6	15	<b>180/030</b>	
	<b>150</b>	8	1.7	20	<b>120/030</b>			<b>150</b>	13	1.1	20	<b>180/030</b>	
	<b>120</b>	10	1.5	25	<b>120/030</b>			<b>120</b>	16	1.0	25	<b>180/030</b>	
	<b>100</b>	11	1.6	30	<b>120/030</b>			<b>100</b>	18	1.0	30	<b>180/030</b>	
	<b>75</b>	14	1.1	40	<b>120/030</b>			<b>75</b>	22	0.7	40	<b>180/030</b>	
	<b>60</b>	17	0.9	50	<b>120/030</b>			<b>60</b>	21	0.7	50	<b>180/030</b>	
	<b>50</b>	20	0.7	60	<b>120/030</b>			<b>50</b>	20	0.7	60	<b>180/030</b>	
	<b>38</b>	17	0.7	80	<b>120/030</b>			<b>38</b>	17	0.7	80	<b>180/030</b>	
	<b>30</b>	16	0.7	100	<b>120/030</b>			<b>30</b>	16	0.7	100	<b>180/030</b>	
	<b>150</b>	8	3.7	20	<b>120/040</b>	<b>120/240</b>		<b>600</b>	4	8.1	5	<b>180/040</b>	<b>120/240</b>
	<b>120</b>	10	2.7	25	<b>120/040</b>			<b>400</b>	5	5.8	7.5	<b>180/040</b>	
	<b>100</b>	12	3.2	30	<b>120/040</b>			<b>300</b>	7	4.8	10	<b>180/040</b>	
	<b>75</b>	15	2.3	40	<b>120/040</b>			<b>200</b>	10	3.5	15	<b>180/040</b>	
	<b>60</b>	18	1.8	50	<b>120/040</b>			<b>150</b>	13	2.3	20	<b>180/040</b>	
	<b>50</b>	20	1.4	60	<b>120/040</b>			<b>120</b>	16	1.8	25	<b>180/040</b>	
	<b>38</b>	24	1.1	80	<b>120/040</b>			<b>100</b>	18	2.1	30	<b>180/040</b>	
	<b>30</b>	29	0.8	100	<b>120/040</b>			<b>75</b>	23	1.5	40	<b>180/040</b>	
								<b>60</b>	27	1.2	50	<b>180/040</b>	
								<b>50</b>	32	0.9	60	<b>180/040</b>	
								<b>38</b>	38	0.7	80	<b>180/040</b>	
								<b>30</b>	34	0.7	100	<b>180/040</b>	

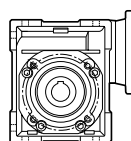
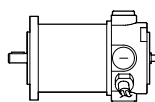
N.B.  
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio

N.B.  
Please check that the output torque M2 does not exceed the value in the grey areas

NDCM

**Motori applicabili**

**IEC Motor adapters**



		<b>ND</b>	
		<b>120.120 120.240</b>	<b>180.120 180.240</b>
<b>CM</b>	<b>026</b>	5 - 60	5 - 60
	<b>030</b>	5 - 100	5 - 100
	<b>040</b>	5 - 100	5 - 100

5-100

Rapporti di riduzione i  
Ratio i

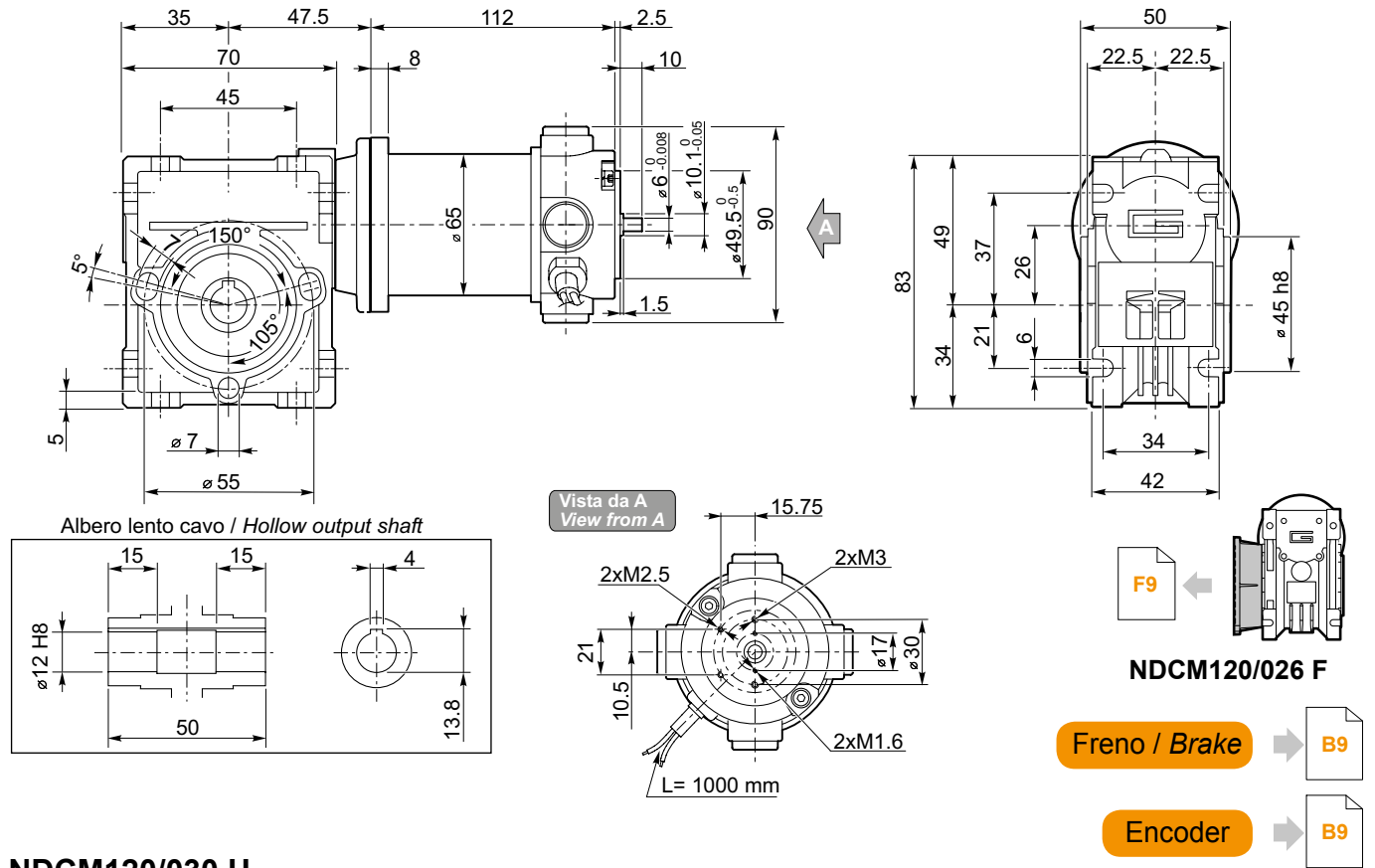




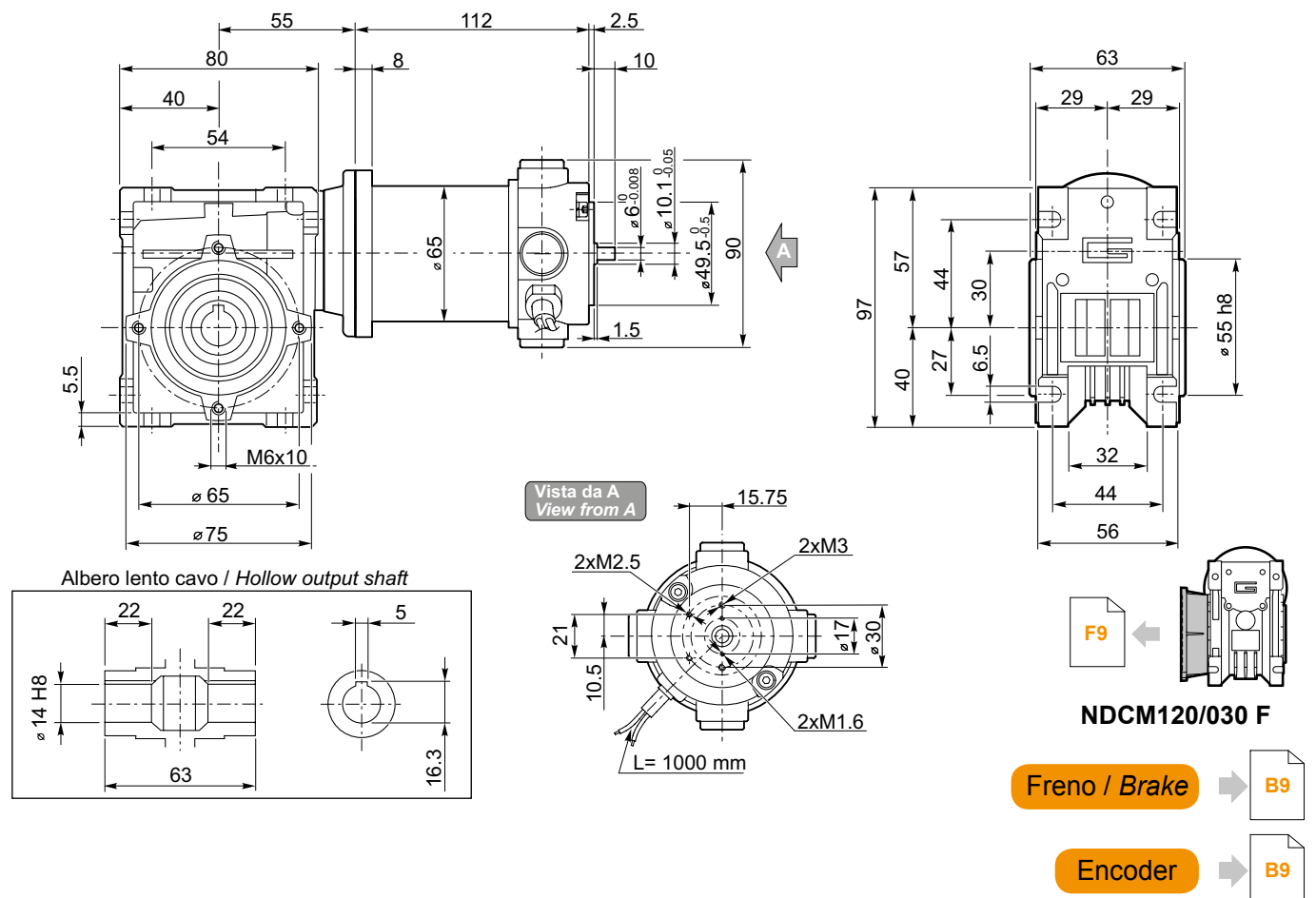
## Dimensioni

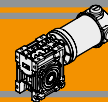
## Dimensions

### NDCM120/026 U



### NDCM120/030 U

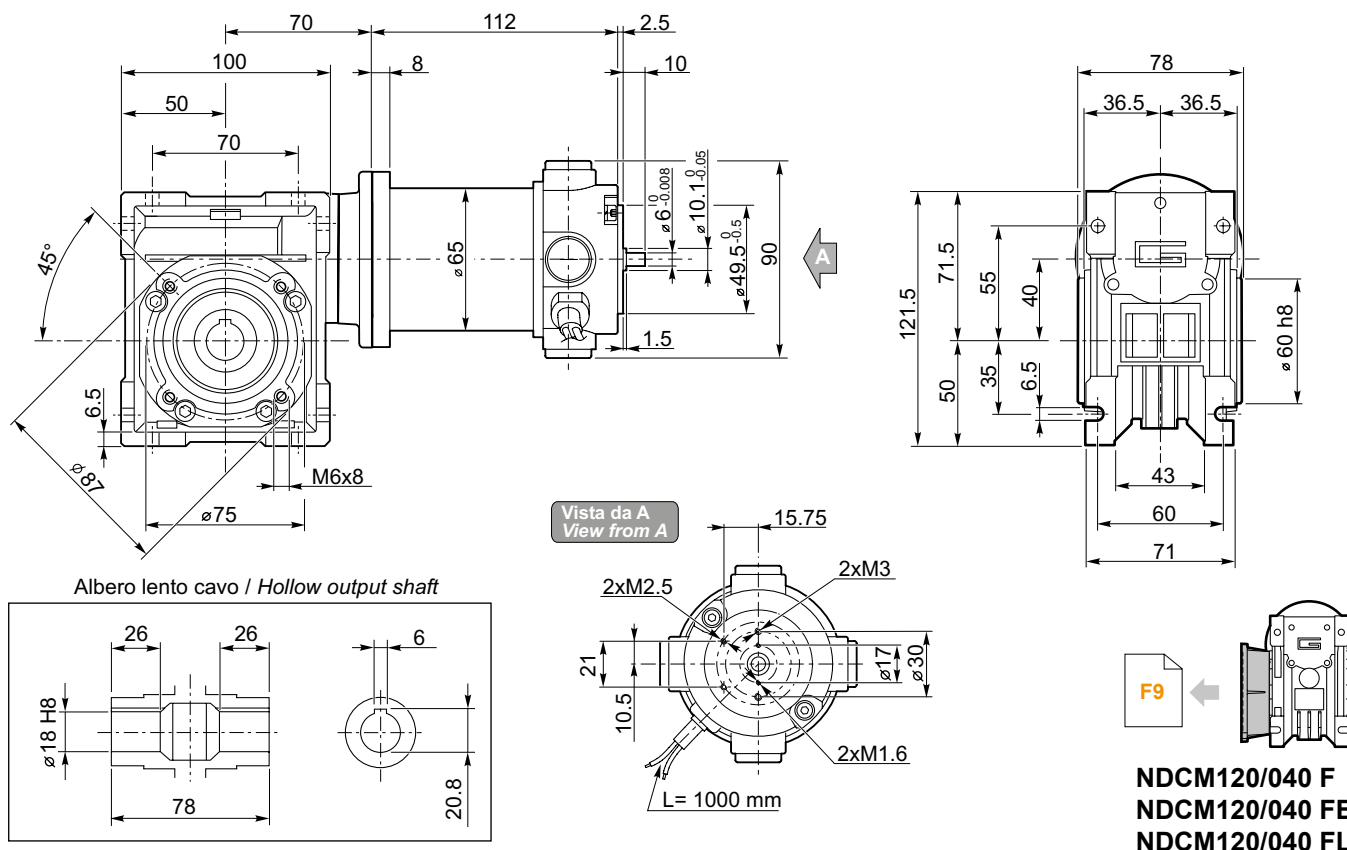




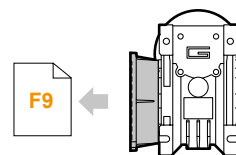
**Dimensioni**

**Dimensions**

**NDCM120/040 U**



**NDCM**



**NDCM120/040 F**  
**NDCM120/040 FB**  
**NDCM120/040 FL**

**Freno / Brake** → **B9**

**Encoder** → **B9**

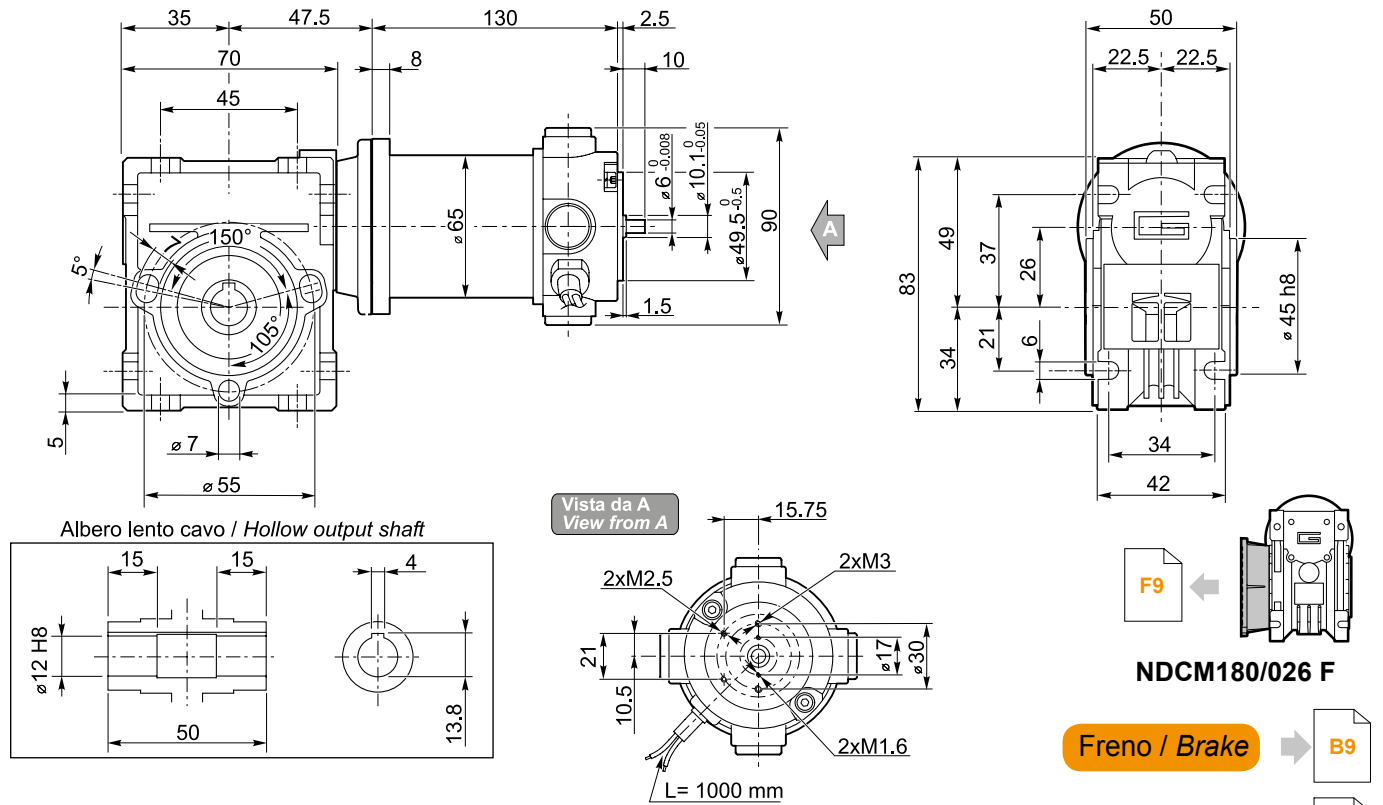




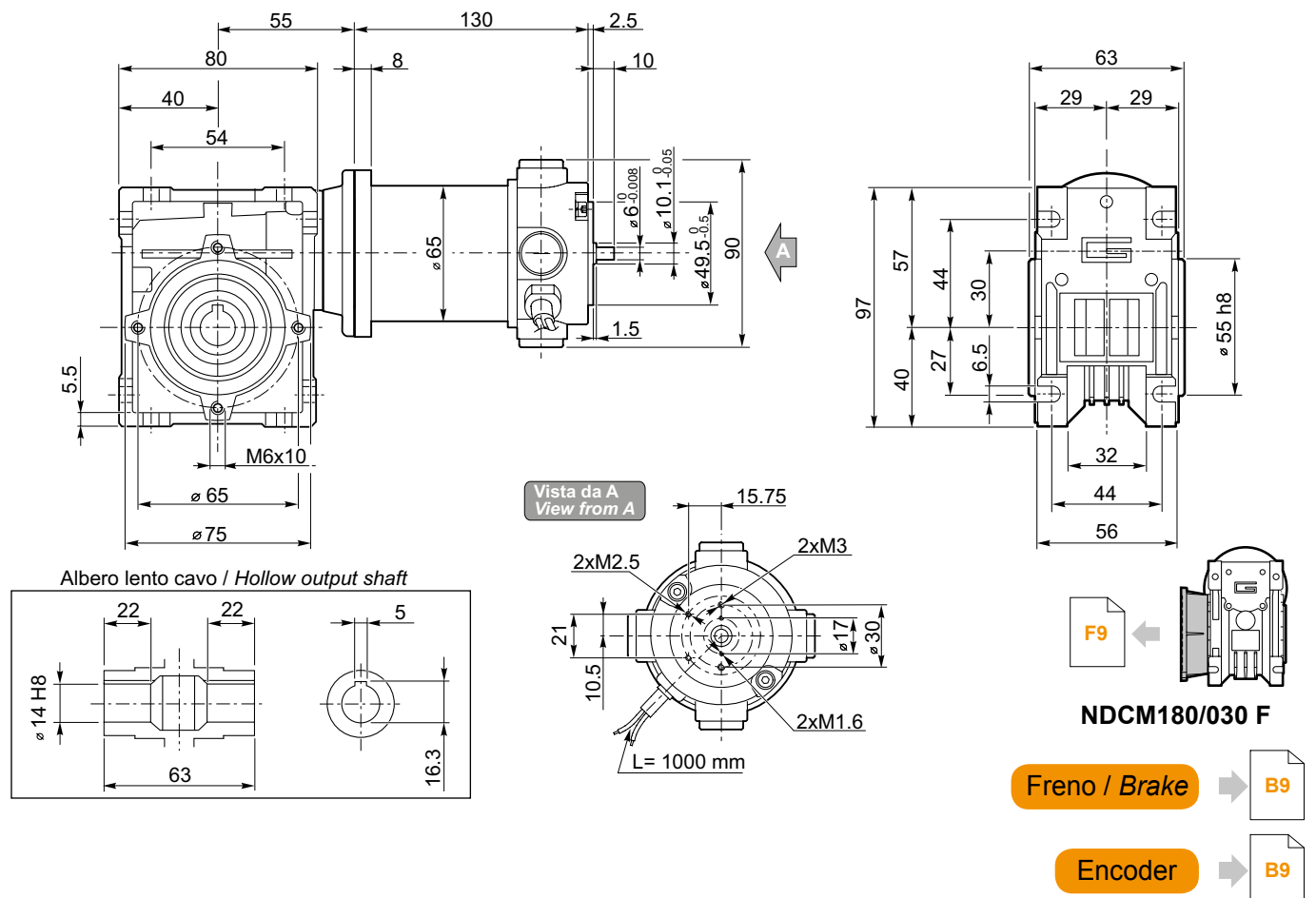
## Dimensioni

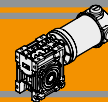
## Dimensions

### NDCM180/026 U



### NDCM180/030 U

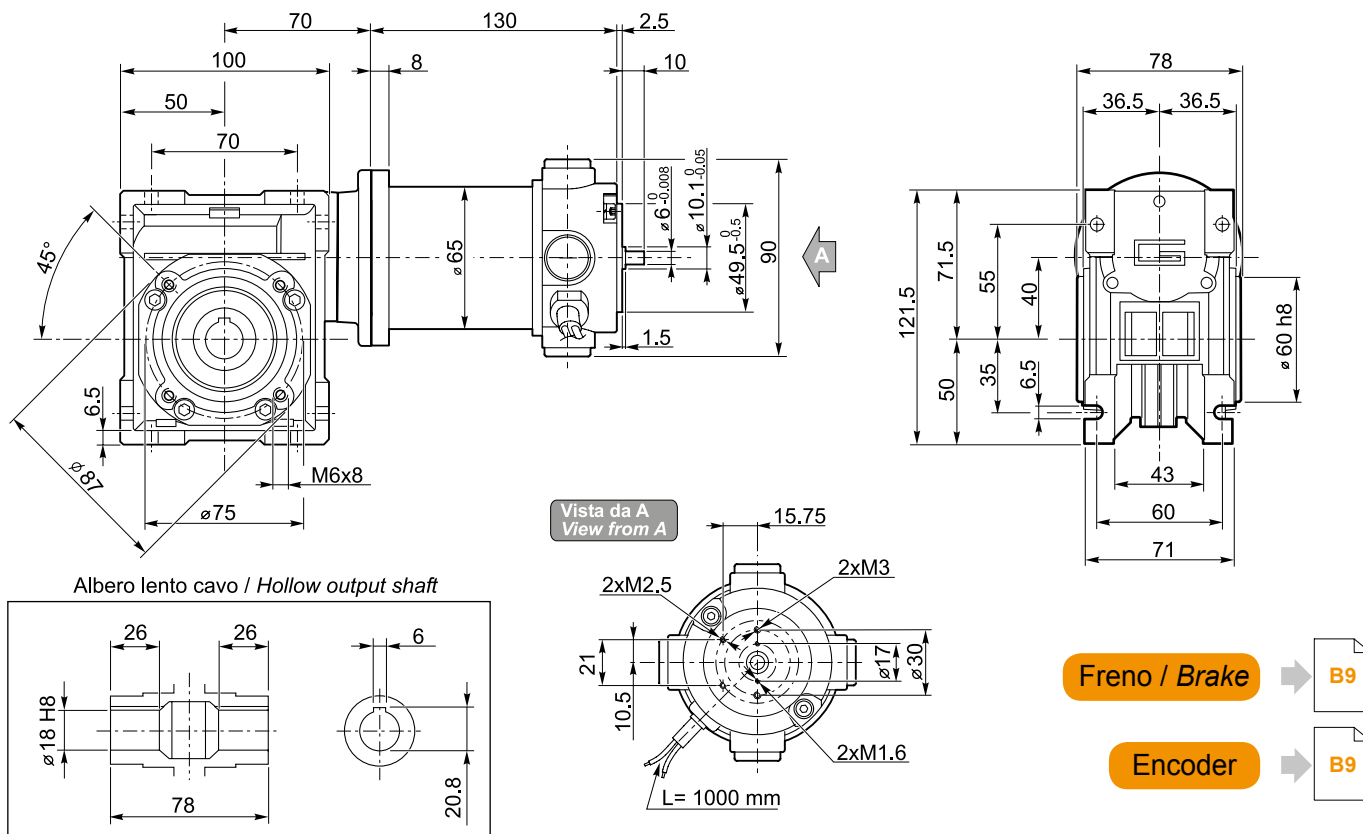




**Dimensioni**

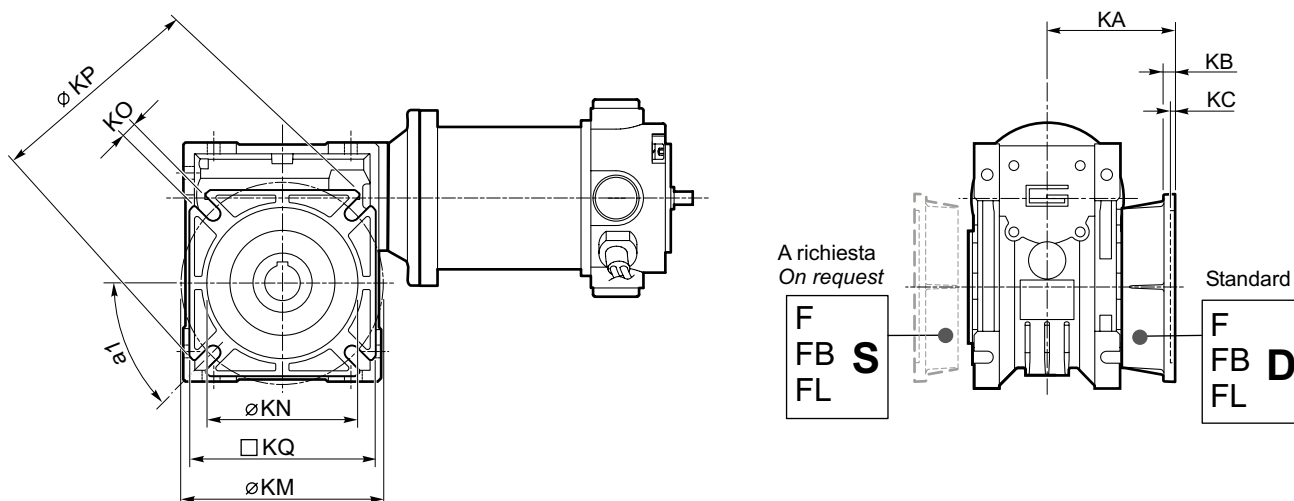
**Dimensions**

**NDCM180/040 U**

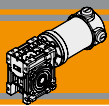


**NDCM**

**NDCM.../... F... Flange uscita / Output flanges**



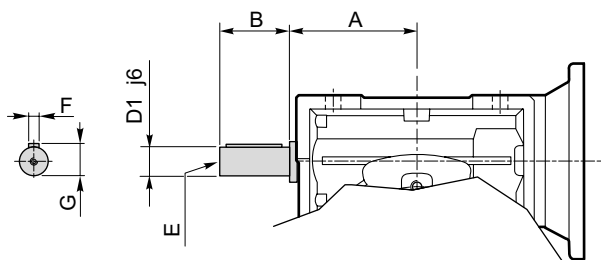
CM	CM..F									CM..FB							CM..FL								
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
026	45°	45	6	4.5	55-69	40	6.5(n.4)	75	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
030	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
040	45°	67	7.5	4.5	80-95	60	9(n.4)	110	95	80	8.5	5	115-125	95	9.5(n.4)	140	112	97	7.5	4.5	80-95	60	10(n.4)	110	95



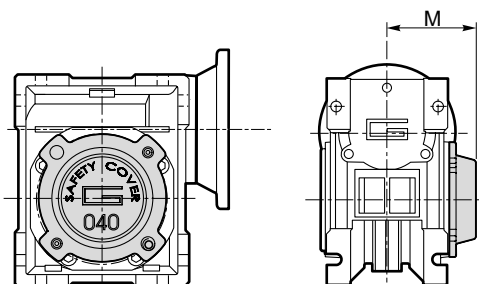
**Opzioni**

**Options**

**VS - Vite sporgente / Extended input shaft**



**SC - Safety cover**



	A	B	D <sub>1</sub> j6	E	F	G
CM 030	45	20	9	M4	3	10.2
CM 040	53	23	11	M5	4	12.5

	M
CM 030	47
CM 040	54.5

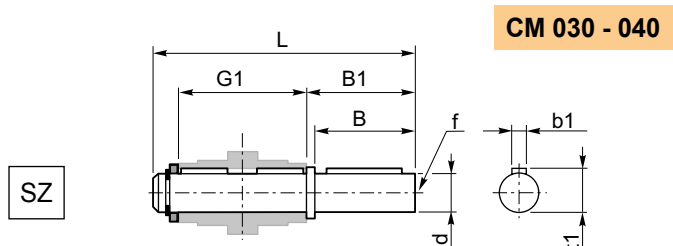
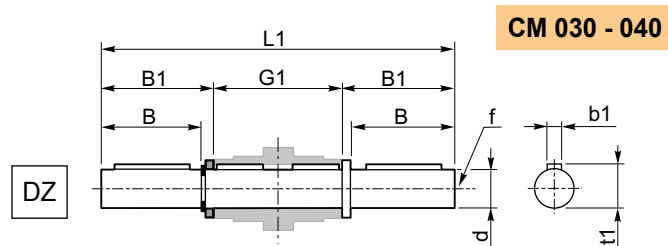
Costruito su richiesta  
Built on request

**Accessori**

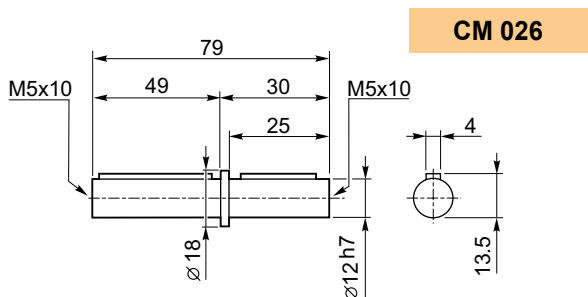
**Accessories**

**Albero lento**

**Output shaft**



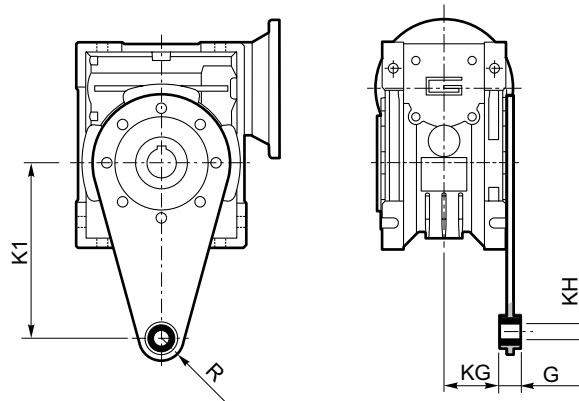
	d h7	B	B1	G1	L	L1	f	b1	t1
CM 030	14	30	32.5	63	102	128	M6	5	16
CM 040	18	40	43	78	128	164	M6	6	20.5



**Braccio di reazione**

**Torque arm**

	K1	G	KG	KH	R
CM 030	85	14	23	8	15
CM 040	100	14	31	10	18



<b>Архангельск (8182)63-90-72</b>	<b>Калининград (4012)72-03-81</b>	<b>Нижний Новгород (831)429-08-12</b>	<b>Смоленск (4812)29-41-54</b>
<b>Астана (7172)727-132</b>	<b>Калуга (4842)92-23-67</b>	<b>Новокузнецк (3843)20-46-81</b>	<b>Сочи (862)225-72-31</b>
<b>Белгород (4722)40-23-64</b>	<b>Кемерово (3842)65-04-62</b>	<b>Новосибирск (383)227-86-73</b>	<b>Ставрополь (8652)20-65-13</b>
<b>Брянск (4832)59-03-52</b>	<b>Киров (8332)68-02-04</b>	<b>Орел (4862)44-53-42</b>	<b>Тверь (4822)63-31-35</b>
<b>Владивосток (423)249-28-31</b>	<b>Краснодар (861)203-40-90</b>	<b>Оренбург (3532)37-68-04</b>	<b>Томск (3822)98-41-53</b>
<b>Волгоград (844)278-03-48</b>	<b>Красноярск (391)204-63-61</b>	<b>Пенза (8412)22-31-16</b>	<b>Тула (4872)74-02-29</b>
<b>Вологда (8172)26-41-59</b>	<b>Курск (4712)77-13-04</b>	<b>Пермь (342)205-81-47</b>	<b>Тюмень (3452)66-21-18</b>
<b>Воронеж (473)204-51-73</b>	<b>Липецк (4742)52-20-81</b>	<b>Ростов-на-Дону (863)308-18-15</b>	<b>Ульяновск (8422)24-23-59</b>
<b>Екатеринбург (343)384-55-89</b>	<b>Магнитогорск (3519)55-03-13</b>	<b>Рязань (4912)46-61-64</b>	<b>Уфа (347)229-48-12</b>
<b>Иваново (4932)77-34-06</b>	<b>Москва (495)268-04-70</b>	<b>Самара (846)206-03-16</b>	<b>Челябинск (351)202-03-61</b>
<b>Ижевск (3412)26-03-58</b>	<b>Мурманск (8152)59-64-93</b>	<b>Санкт-Петербург (812)309-46-40</b>	<b>Череповец (8202)49-02-64</b>
<b>Казань (843)206-01-48</b>	<b>Набережные Челны (8552)20-53-41</b>	<b>Саратов (845)249-38-78</b>	<b>Ярославль (4852)69-52-93</b>

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