



### The Controlflex® series



#### **Standard**

For all standard encoders



#### **Impuls Plus**

For encoders with maximum accuracy



#### **Compact**

The very short design



#### **Industry**

For robust industrial encoders

## Controlflex®

Controlflex® is the ideal coupling for encoders.

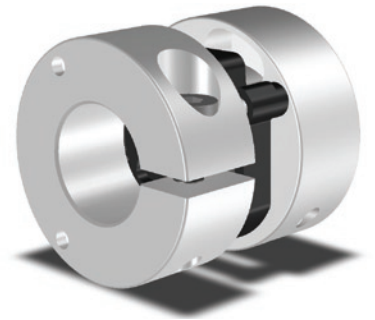
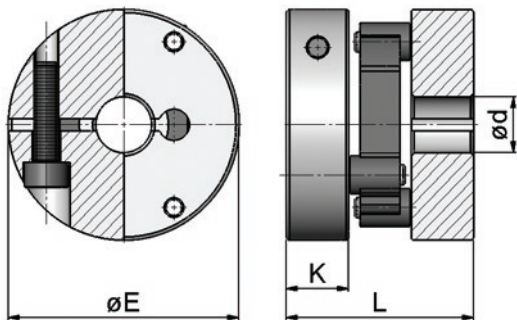
Controlflex® is a compact, electrically-insulating, precise shaft coupling with excellent kinematic properties.

Modular construction makes it possible to realize all possible bore combinations from stock.

## Standard

The optimal choice for all standard encoders and tachos.

The Standard series offers a balanced design of precision with very low restoring forces and it exactly meets the requirements of today's encoders.



	ØE (mm)	L (mm)	Ød <sub>max</sub> (mm)	Ød <sub>min</sub> (mm)	K (mm)	m (kg)	J (kg cm <sup>2</sup> )	T <sub>KN</sub> (Nm)	TK <sub>max</sub> (Nm)	ΔK <sub>r</sub> (mm)	ΔK <sub>w</sub> (°)	ΔK <sub>a</sub> (mm)	n <sub>max</sub> (1/min)	C <sub>R</sub> (N)
CPS 8.1	19	16	10	3	5,6	0,01	0,004	0,3	0,7	0,4	1,5	0,3	25.000	3
CPS 10.1	25	25,5	12	4	9,5	0,03	0,02	0,7	1	0,7	1,5	0,5	22.000	3,4
CPS 15.1	37	30	20	5	10	0,06	0,11	2	3	1	1,5	0,7	15.000	4,4

Order Example 1: CPS 15.1 Ø10 Ø10    Order Example 2: CPS 10.1 Ø10 Ø10

CPS 15.1	Ø10 Ø10
Type Controlflex® Standard CPS 15.1	bore diameters

To ensure the correct selection of the Controlflex® please use our selection procedure and legend area to download the required information.

1. Calculation of the design torque. Please multiply your continuous torque by the required service factor to get the design torque.

#### service factor

uniform	1
light shocks	1,5
medium shocks	2
heavy shocks	2,5

2. Select a coupling size that has a continuous torque rating greater than your calculated design torque.
3. Make sure that the peak torque of the application does not exceed the maximum torque rating of the coupling.
4. Please check the coupling maximum speed to be sure it is within the rated maximum speed.
5. Make sure that the misalignment capability is sufficient. There is a trade-off between the radial, axial and angular misalignment capabilities. Be certain that the combined percentages of each do not exceed 100%.

## Legend

### Performance

$T_{KN}$	continuous torque rating of the coupling (Nm)
$T_{K\ max}$	maximum torque capacity of the coupling (Nm)
$n_{\ max}$	maximum speed of the coupling (1/min)
$\Delta K_r$	maximum radial misalignment capacity (mm)
$\Delta K_a$	maximum axial misalignment capacity (mm)
$\Delta K_w$	maximum angular misalignment capacity (°)
$C_R$	restoring forces at 0,2 mm radial misalignment (N)
J	moment of inertia (kg cm <sup>2</sup> )

### Dimension

$\varnothing E$	coupling diameter (mm)
L	coupling length (mm)
K	clamp hub length (mm)
$\varnothing d_{\ max}$	maximum bore diameter (mm)
$\varnothing d_{\ min}$	minimum bore diameter (mm)
m	weight of the coupling (kg)



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## Controlflex®

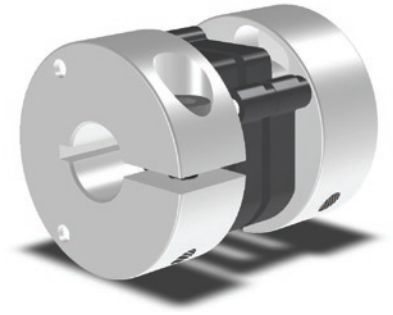
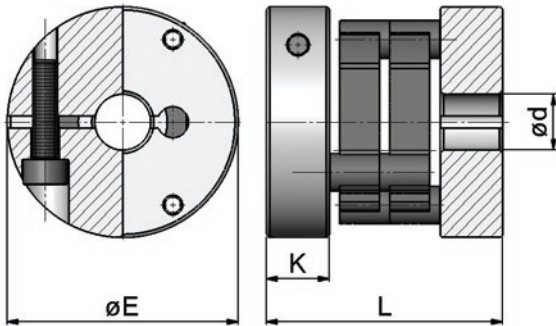
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Controlflex® is a compact, electrically-insulating, precise shaft coupling with excellent kinematic properties.

Modular construction makes it possible to realize all possible bore combinations from stock.

## Impuls Plus

The Controlflex® series for encoders with maximum accuracy. It is predestined for encoders using a graduated disk with increased line counts or with fine measuring signals.



	ØE (mm)	L (mm)	Ød <sub>max</sub> (mm)	Ød <sub>min</sub> (mm)	K (mm)	m (kg)	J (kg cm <sup>2</sup> )	T <sub>KV</sub> (Nm)	T <sub>K</sub> max (Nm)	ΔK <sub>r</sub> (mm)	ΔK <sub>w</sub> (°)	ΔK <sub>a</sub> (mm)	n <sub>max</sub> (1/min)	C <sub>F</sub> (N)
CPS 8.2	19	20	10	3	5,6	0,01	0,01	0,6	1,4	0,4	1	0,3	25.000	6
CPS 10.2	25	31	12	4	9,5	0,03	0,02	1,4	2	0,7	1	0,5	22.000	6,8
CPS 15.2	37	38	20	5	10	0,07	0,12	4	6	1	1	0,7	15.000	8,8

Order Example 1: CPS 15.2 Ø10 Ø10    Order Example 2: CPS 8.2 Ø10 Ø10

CPS 8.2	Ø10 Ø10
Type Controlflex® Impuls Plus CPS 8.2	bore diameters

To ensure the correct selection of the Controlflex® please use our selection procedure and legend area to download the required information.

1. Calculation of the design torque. Please multiply your continuous torque by the required service factor to get the design torque.

#### service factor

uniform	1
light shocks	1,5
medium shocks	2
heavy shocks	2,5

2. Select a coupling size that has a continuous torque rating greater than your calculated design torque.
3. Make sure that the peak torque of the application does not exceed the maximum torque rating of the coupling.
4. Please check the coupling maximum speed to be sure it is within the rated maximum speed.
5. Make sure that the misalignment capability is sufficient. There is a trade-off between the radial, axial and angular misalignment capabilities. Be certain that the combined percentages of each do not exceed 100%.

## Legend

### Performance

$T_{KN}$	continuous torque rating of the coupling (Nm)
$T_{K\ max}$	maximum torque capacity of the coupling (Nm)
$n_{\ max}$	maximum speed of the coupling (1/min)
$\Delta K_r$	maximum radial misalignment capacity (mm)
$\Delta K_a$	maximum axial misalignment capacity (mm)
$\Delta K_w$	maximum angular misalignment capacity (°)
$C_R$	restoring forces at 0,2 mm radial misalignment (N)
J	moment of inertia (kg cm <sup>2</sup> )

### Dimension

$\varnothing E$	coupling diameter (mm)
L	coupling length (mm)
K	clamp hub length (mm)
$\varnothing d_{\ max}$	maximum bore diameter (mm)
$\varnothing d_{\ min}$	minimum bore diameter (mm)
m	weight of the coupling (kg)





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## Controlflex®

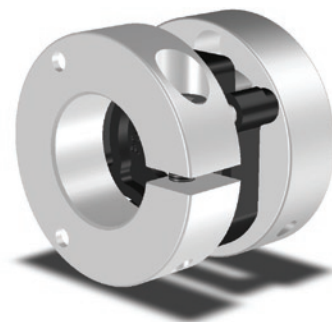
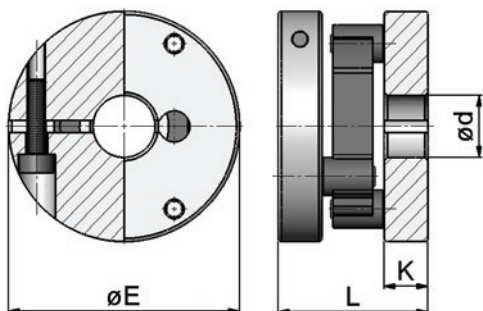
Controlflex® is the ideal coupling for encoders.

Controlflex® is a compact, electrically-insulating, precise shaft coupling with excellent kinematic properties.

Modular construction makes it possible to realize all possible bore combinations from stock.

## Compact

The very short design, especially designed for encoder applications where the coupling is integrated into a very tight axial space. As an example where the coupling is mounted in a fixed housing.



	ØE (mm)	L (mm)	Ød <sub>max</sub> (mm)	Ød <sub>min</sub> (mm)	K (mm)	m (kg)	J (kg cm <sup>2</sup> )	T <sub>kN</sub> (Nm)	T <sub>k max</sub> (Nm)	ΔK <sub>r</sub> (mm)	ΔK <sub>w</sub> (°)	ΔK <sub>s</sub> (mm)	n <sub>max</sub> (1/min)	C <sub>R</sub> (N)
CPS 9.1	25	20,5	12	4	7	0,02	0,02	0,7	1	0,4	1,5	0,5	22.000	3,4
CPS 14.1	37	24	22	5	7	0,04	0,1	2	3	1	1,5	0,7	15.000	4,4

Order Example 1: CPS 9.1 Ø10 Ø10    Order Example 2: CPS 14.1 Ø10 Ø10

CPS 14.1	Ø10 Ø10
Type Controlflex® Compact CPS 14.1	bore diameters

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1. Calculation of the design torque. Please multiply your continuous torque by the required service factor to get the design torque.

#### service factor

uniform	1
light shocks	1,5
medium shocks	2
heavy shocks	2,5

2. Select a coupling size that has a continuous torque rating greater than your calculated design torque.
3. Make sure that the peak torque of the application does not exceed the maximum torque rating of the coupling.
4. Please check the coupling maximum speed to be sure it is within the rated maximum speed.
5. Make sure that the misalignment capability is sufficient. There is a trade-off between the radial, axial and angular misalignment capabilities. Be certain that the combined percentages of each do not exceed 100%.

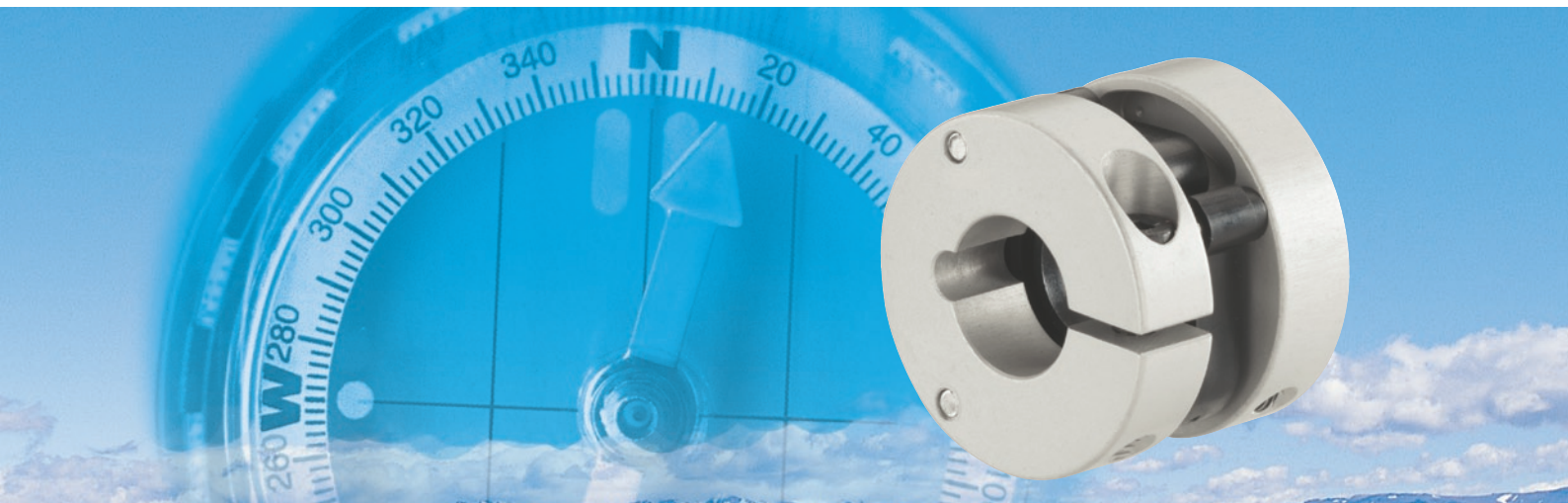
## Legend

### Performance

$T_{KN}$	continuous torque rating of the coupling (Nm)
$T_{K\ max}$	maximum torque capacity of the coupling (Nm)
$n_{\ max}$	maximum speed of the coupling (1/min)
$\Delta K_r$	maximum radial misalignment capacity (mm)
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$\Delta K_w$	maximum angular misalignment capacity (°)
$C_R$	restoring forces at 0,2 mm radial misalignment (N)
J	moment of inertia (kg cm <sup>2</sup> )

### Dimension

$\varnothing E$	coupling diameter (mm)
L	coupling length (mm)
K	clamp hub length (mm)
$\varnothing d_{\ max}$	maximum bore diameter (mm)
$\varnothing d_{\ min}$	minimum bore diameter (mm)
m	weight of the coupling (kg)



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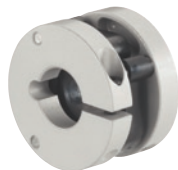
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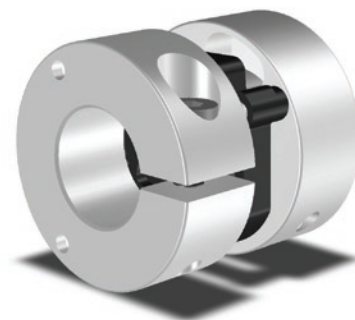
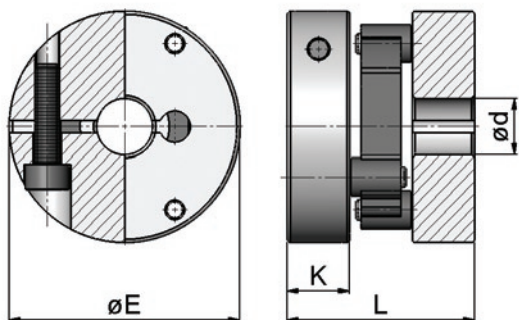
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Controlflex® is a compact, electrically-insulating, precise shaft coupling with excellent kinematic properties.

Modular construction makes it possible to realize all possible bore combinations from stock.

## Industry

The Controlflex® series, designed for robust industrial encoders with larger shaft diameters up to 40 mm.



	$\varnothing E$ (mm)	L (mm)	$\varnothing d_{max}$ (mm)	$\varnothing d_{min}$ (mm)	K (mm)	m (kg)	J (kg cm <sup>2</sup> )	$T_{KN}$ (Nm)	$TK_{max}$ (Nm)	$\Delta K_r$ (mm)	$\Delta K_w$ (°)	$\Delta K_a$ (mm)	$n_{max}$ (1/min)	$C_r$ (N)
CPS 23.1	56	45	30	8	15	0,2	0,92	7	10	1,5	1,5	1	10.000	6,8
CPS 30.1	75	57	40	10	18	0,43	3,8	15	22	2	1,5	1,5	10.000	10

Order Example 1: CPS 23.1  $\varnothing 12$   $\varnothing 16$     Order Example 2: CPS 30.1  $\varnothing 16$   $\varnothing 20$

CPS 30.1

$\varnothing 16$   $\varnothing 20$

Type Controlflex® Industry CPS 30.1    bore diameters

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1. Calculation of the design torque. Please multiply your continuous torque by the required service factor to get the design torque.

#### service factor

uniform	1
light shocks	1,5
medium shocks	2
heavy shocks	2,5

2. Select a coupling size that has a continuous torque rating greater than your calculated design torque.
3. Make sure that the peak torque of the application does not exceed the maximum torque rating of the coupling.
4. Please check the coupling maximum speed to be sure it is within the rated maximum speed.
5. Make sure that the misalignment capability is sufficient. There is a trade-off between the radial, axial and angular misalignment capabilities. Be certain that the combined percentages of each do not exceed 100%.

## Legend

### Performance

$T_{KN}$	continuous torque rating of the coupling (Nm)
$T_{Kmax}$	maximum torque capacity of the coupling (Nm)
$n_{max}$	maximum speed of the coupling (1/min)
$\Delta K_r$	maximum radial misalignment capacity (mm)
$\Delta K_a$	maximum axial misalignment capacity (mm)
$\Delta K_w$	maximum angular misalignment capacity (°)
$C_R$	restoring forces at 0,2 mm radial misalignment (N)
J	moment of inertia (kg cm <sup>2</sup> )

### Dimension

$\varnothing E$	coupling diameter (mm)
L	coupling length (mm)
K	clamp hub length (mm)
$\varnothing d_{max}$	maximum bore diameter (mm)
$\varnothing d_{min}$	minimum bore diameter (mm)
m	weight of the coupling (kg)