

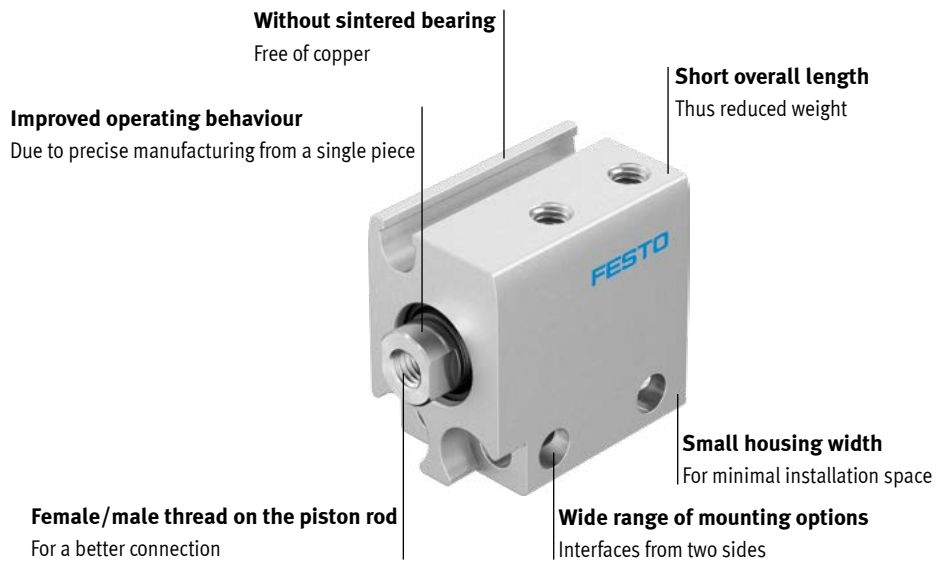
Compact cylinders ADN-S/AEN-S

FESTO



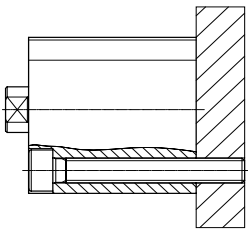
Key features

At a glance

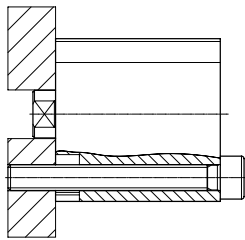


Mounting options

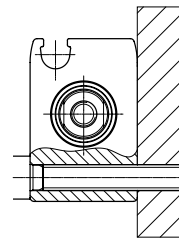
From the front



From the rear

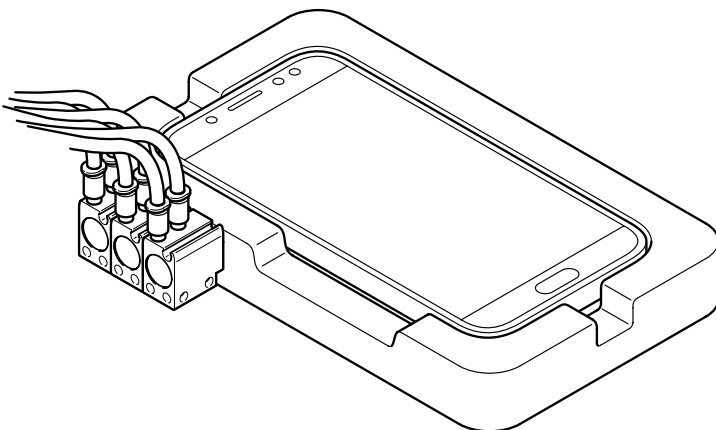


From the side



Application example

Long-term tests of smartphone keys



Type codes

001	Series	
ADN	Compact cylinder, double-acting, based on ISO 21287	

002	Design type	
S	Short	

003	Piston diameter	
6	6	
10	10	

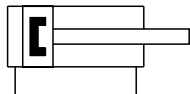
004	Stroke	
5	5	
10	10	

005	Piston rod thread type	
A	Male thread	
I	Female thread	

006	Position sensing	
	None	
A	For proximity sensor	

Data sheet

Function



⌀ - Diameter
6, 10 mm

┆ - Stroke length
5, 10 mm



General technical data

Piston ⌀	6	10
Design	Piston Piston rod	
Mode of operation	Double-acting	
Piston rod end	Male thread Female thread	
Pneumatic connection	M3	
Stroke [mm]	5, 10	
Cushioning	Without	
Position sensing	Via proximity sensor	
Type of mounting	Via through-hole	
Mounting position	Optional	

Operating and environmental conditions

Piston ⌀	6	10
Operating pressure ¹⁾ [bar]	1.5 ... 8	1 ... 8
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on the operating medium	Lubricated operation possible (in which case lubricated operation will always be required)	
Ambient temperature ²⁾ [°C]	-10 ... +60	
Corrosion resistance class CRC ³⁾	1	

1) The minimum pressure values in the retracting direction may be slightly higher after an extended idle time.

2) Note operating range of proximity sensors.

3) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Weight [g]

Piston ⌀	6	10
Product weight		
With 5 mm Stroke	9,2/10,9 ¹⁾	12,2/14,5 ¹⁾
With 10 mm Stroke	11,9/13,6 ¹⁾	15,4/17,7 ¹⁾
Moving mass		
With 5 mm Stroke	1,5/1,6 ¹⁾	4,1/4,5 ¹⁾
With 10 mm Stroke	2,3/2,4 ¹⁾	5,3/5,7 ¹⁾

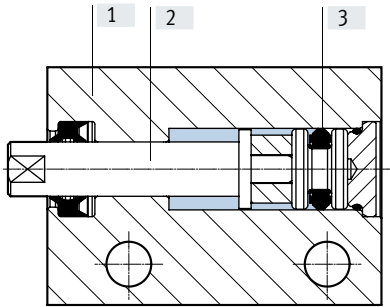
1) With position sensing

Data sheet

Forces [N] and impact energy [J]		
Piston \varnothing	6	10
Theoretical force at 6 bar, advancing	17	47
Theoretical force at 6 bar, retracting	9.4	30.2
Impact energy in the end positions	0.006	0.012

Materials

Sectional view



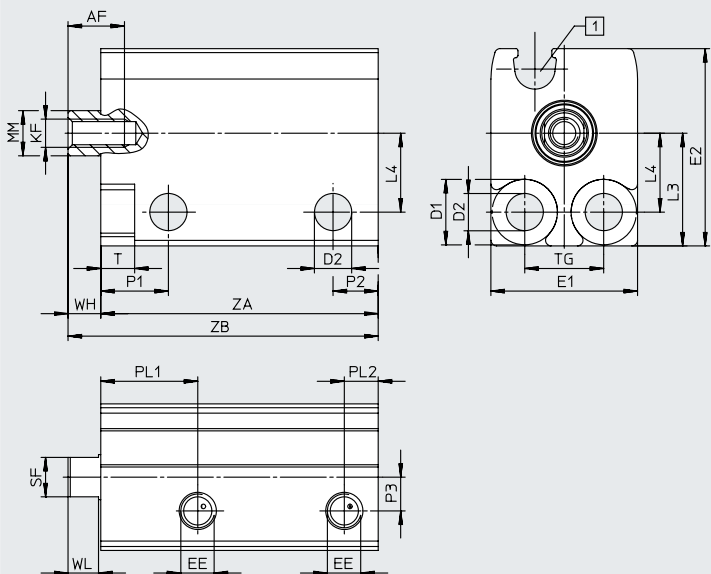
Compact cylinder		
[1]	Housing	Anodised wrought aluminium alloy
[2]	Piston rod	High-alloy stainless steel
[3]	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS-compliant

Data sheet

Dimensions

Download CAD data → www.festo.com

With female thread



[1] C-slot for proximity sensor

∅	AF	D1	D2	EE	E1	E2	KF	L3	L4	MM
[mm]	min.	∅ H13	∅		max.	max.				∅
6	5	5.8	3.3	M3	13	17.5	M2.5	10	7	4
10	6				13.5	20.5	M3	11	8	6

∅	P1	P2	P3	PL2	SF	T	TG	WH	WL
[mm]							±0.1		
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				

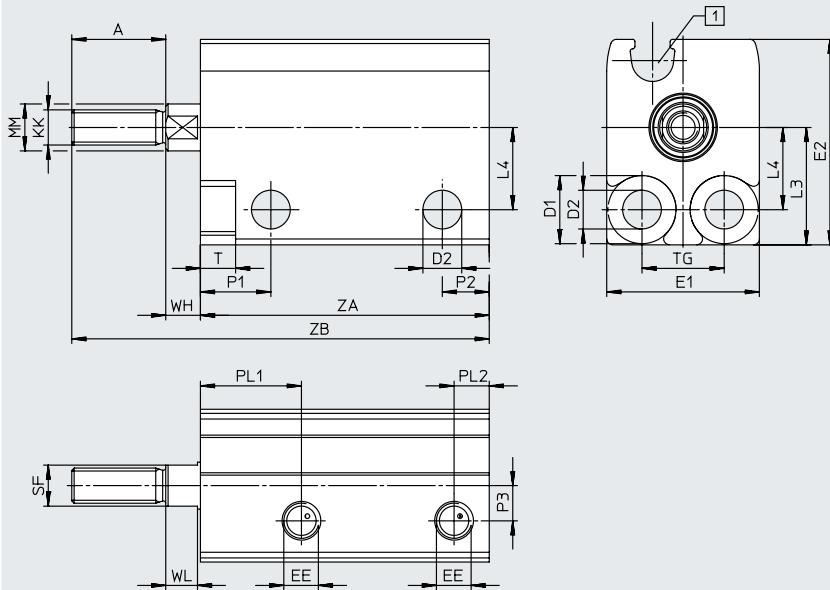
∅	Stroke	Position sensing	PL1	ZA	ZB
[mm]	[mm]			+0.3	±0.35
6	5	-	8.6	20.5	23.5
		■	8.6	24.5	27.5
	10	-	8.6	25.5	28.5
		■	8.6	29.5	32.5
10	5	-	9.2	20.5	23.5
		■	9.9	24.5	27.5
	10	-	9.2	25.5	28.5
		■	9.9	29.5	32.5

Data sheet

Dimensions

Download CAD data → www.festo.com

With male thread



[1] C-slot for proximity sensor

∅ [mm]	A	D1 ∅ H13	D2 ∅	EE	E1 max.	E2 max.	KK	L3	L4	MM ∅
6	8	5.8	3.3	M3	13	17.5	M3	10	7	4
10	10				13.5	20.5	M4	11	8	6

∅ [mm]	P1	P2	P3	PL2	SF	T	TG ±0.1	WH	WL
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				

∅ [mm]	Stroke [mm]	Position sensing	PL1	ZA +0.3	ZB ±0.35
6	5	—	8.6	20.5	23.5
		■	8.6	24.5	27.5
	10	—	8.6	25.5	28.5
		■	8.6	29.5	32.5
10	5	—	9.2	20.5	23.5
		■	9.9	24.5	27.5
	10	—	9.2	25.5	28.5
		■	9.9	29.5	32.5

Data sheet

Ordering data – Without cushioning					
Piston \varnothing [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
6	Without position sensing				
	5	4886885	ADN-S-6-5-I	8080598	ADN-S-6-5-A
	10	4886886	ADN-S-6-10-I	8080596	ADN-S-6-10-A
	With position sensing				
	5	5173732	ADN-S-6-5-I-A	8080597	ADN-S-6-5-A-A
	10	5173733	ADN-S-6-10-I-A	8080595	ADN-S-6-10-A-A
10	Without position sensing				
	5	4887523	ADN-S-10-5-I	8080589	ADN-S-10-5-A
	10	4887524	ADN-S-10-10-I	8080588	ADN-S-10-10-A
	With position sensing				
	5	5177082	ADN-S-10-5-I-A	8080587	ADN-S-10-5-A-A
	10	5177085	ADN-S-10-10-I-A	8080590	ADN-S-10-10-A-A

Type codes

001	Series
AEN	Compact cylinder, single-acting, based on ISO 21287

002	Design type
S	Short

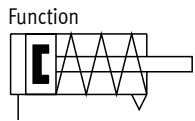
003	Piston diameter
6	6
10	10

004	Stroke
5	5
10	10

005	Piston rod thread type
A	Male thread
I	Female thread

006	Position sensing
	None
A	For proximity sensor

Data sheet



- \varnothing - Diameter
6, 10 mm

- | - Stroke length
5, 10 mm



General technical data

Piston \varnothing	6	10
Design	Piston Piston rod	
Mode of operation	Single-acting Pushing	
Piston rod end	Male thread Female thread	
Pneumatic connection	M3	
Stroke [mm]	5, 10	
Cushioning	Without	
Position sensing	Via proximity sensor	
Type of mounting	Via through-hole	
Mounting position	Optional	

Operating and environmental conditions

Piston \varnothing	6	10
Operating pressure ¹⁾ [bar]	2.5 ... 8	1.5 ... 8
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on the operating medium	Lubricated operation possible (in which case lubricated operation will always be required)	
Ambient temperature ²⁾ [°C]	-10 ... +60	
Corrosion resistance class CRC ³⁾	1	

1) The minimum pressure values in the retracting direction may be slightly higher after an extended idle time.

2) Note operating range of proximity sensors.

3) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Weight [g]

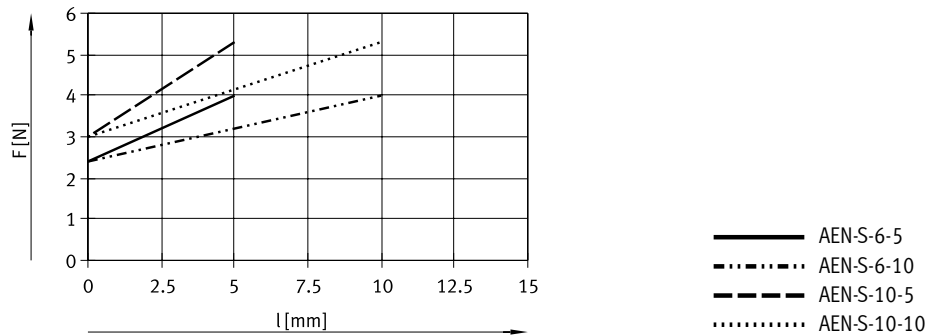
Piston \varnothing	6	10
Product weight		
with 5 mm stroke	9.2/10.9 ¹⁾	12.2/17 ¹⁾
with 10 mm stroke	11.9/15 ¹⁾	15.4/19 ¹⁾
Moving mass		
with 5 mm stroke	1.5/1.6 ¹⁾	4.1/4.5 ¹⁾
with 10 mm stroke	2.3/2.4 ¹⁾	5.3/5.7 ¹⁾

1) With position sensing

Data sheet

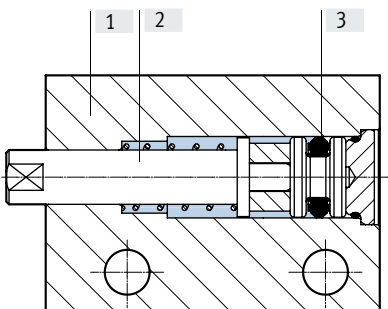
Forces [N] and impact energy [J]		
Piston \varnothing	6	10
Theoretical force at 6 bar, advancing	13	42
Theoretical force at 6 bar, retracting	See "Theoretical spring force for retraction"	
Impact energy in the end positions	0.006	0.012

Theoretical spring force for retraction


Note

The degree of friction depends on the mounting position and the type of load involved. Single-acting cylinders should as far as possible be operated without lateral loads.

Sectional view



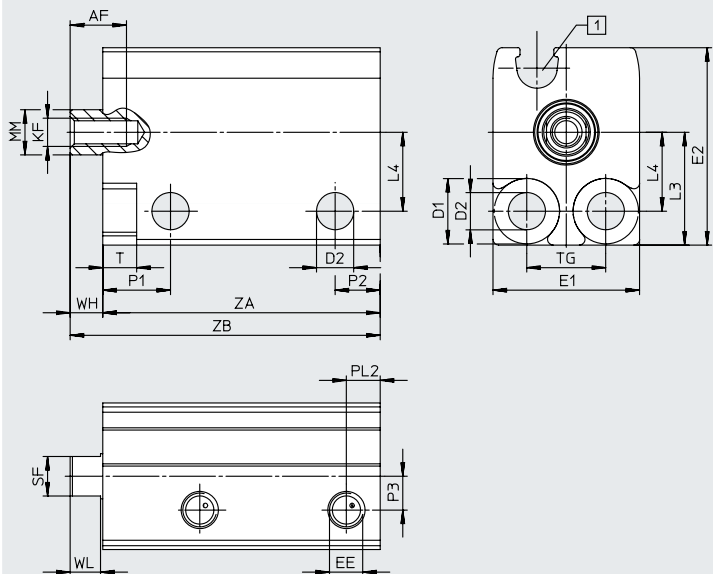
Compact cylinder		
[1]	Housing	Anodised wrought aluminium alloy
[2]	Piston rod	High-alloy stainless steel
[3]	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS-compliant

Data sheet

Dimensions

Download CAD data → www.festo.com

With female thread



[1] C-slot for proximity sensor

∅ [mm]	AF min.	D1 ∅ H13	D2 ∅	EE	E1 max.	E2 max.	KF	L3	L4	MM ∅
6	5	5.8	3.3	M3	13	17.5	M2.5	10	7	4
10	6				13.5	20.5	M3	11	8	6

∅ [mm]	P1	P2	P3	PL2	SF	T	TG ±0.1	WH	WL
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				

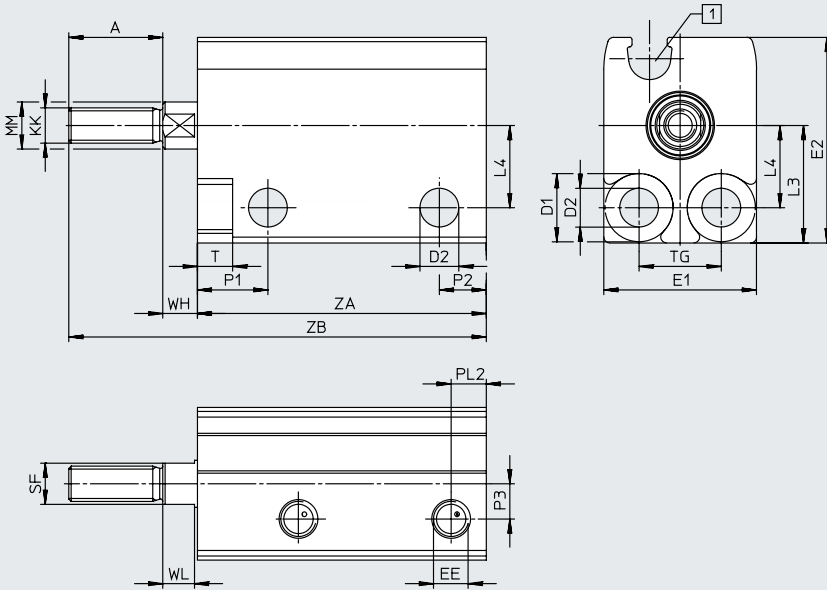
∅ [mm]	Stroke [mm]	Position sensing	ZA		ZB	
			+0.3		±0.35	
6	5	-	20.5		23.5	
		■	24.5		27.5	
	10	-	25.5		28.5	
		■	29.5		32.5	
10	5	-	20.5		23.5	
		■	24.5		27.5	
	10	-	25.5		28.5	
		■	29.5		32.5	

Data sheet

Dimensions

Download CAD data → www.festo.com

With male thread



[1] C-slot for proximity sensor

∅ [mm]	A	D1 ∅ H13	D2 ∅	EE	E1 max.	E2 max.	KK	L3	L4	MM ∅
6	8	5.8	3.3	M3	13	17.5	M3	10	7	4
10	10				13.5	20.5	M4	11	8	6


∅ [mm]	P1	P2	P3	PL2	SF	T	TG ±0.1	WH	WL
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				


∅ [mm]	Stroke [mm]	Position sensing	ZA +0.3	ZB ±0.35
6	5	-	20.5	23.5
		■	24.5	27.5
	10	-	25.5	28.5
		■	29.5	32.5
10	5	-	20.5	23.5
		■	24.5	27.5
	10	-	25.5	28.5
		■	29.5	32.5

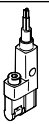
Data sheet



Ordering data – Without cushioning					
Piston \varnothing [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
6	Without position sensing				
	5	4984929	AEN-S-6-5-I	8080593	AEN-S-6-5-A
	10	4984930	AEN-S-6-10-I	8080594	AEN-S-6-10-A
	With position sensing				
	5	5267300	AEN-S-6-5-I-A	8080591	AEN-S-6-5-A-A
	10	5267301	AEN-S-6-10-I-A	8080592	AEN-S-6-10-A-A
10	Without position sensing				
	5	4891759	AEN-S-10-5-I	8080583	AEN-S-10-5-A
	10	4891760	AEN-S-10-10-I	8080586	AEN-S-10-10-A
	With position sensing				
	5	5269268	AEN-S-10-5-I-A	8080584	AEN-S-10-5-A-A
	10	5269269	AEN-S-10-10-I-A	8080585	AEN-S-10-10-A-A

Accessories

Ordering data – Proximity sensor for C-slot, magneto-resistive							Data sheets → Internet: smt
	Type of mounting	Switching output	Electrical connection, outlet direction of connection	Cable length [m]	Part no.	Type	
N/O contact							
	Insertable in the slot from above	PNP	Plug M8x1, 3-pin, in-line	0.3	551375	SMT-10M-PS-24V-E-0.3-L-M8D	
			Cable, 3-wire, in-line	2.5	551373	SMT-10M-PS-24V-E-2.5-L-OE	

Ordering data – Proximity sensor for C-slot, magnetic reed							Data sheets → Internet: sme
	Type of mounting	Switching output	Electrical connection, outlet direction of connection	Cable length [m]	Part no.	Type	
N/O contact							
	Insertable in the slot from above	Contacting	Plug M8x1, 3-pin, in-line	0.3	551367	SME-10M-DS-24V-E-0.3-L-M8D	
			Cable, 3-wire, in-line	2.5	551365	SME-10M-DS-24V-E-2.5-L-OE	
			Cable, 2-wire, in-line	2.5	551369	SME-10M-ZS-24V-E-2.5-L-OE	

Ordering data – Proximity sensor for C-slot, magneto-resistive							Data sheets → Internet: smt
	Type of mounting	Electrical connection, outlet direction of connection	Switching output	Cable length [m]	Part no.	Type	
N/O contact							
	Insertable in the slot lengthwise	Cable, 3-wire, lateral	PNP	2.5	547862	SMT-10G-PS-24V-E-2.5Q-OE	
		Plug M8x1, 3-pin, lateral		0.3	547863	SMT-10G-PS-24V-E-0.3Q-M8D	
		Cable, 3-wire, lateral	NPN	2.5	8065030	SMT-10G-NS-24V-E-2.5Q-OE	
		Plug M8x1, 3-pin, lateral		0.3	8065029	SMT-10G-NS-24V-E-0.3Q-M8D	

Ordering data – Connecting cables							Data sheets → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type		
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3		
			5	541334	NEBU-M8G3-K-5-LE3		
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3		
			5	541341	NEBU-M8W3-K-5-LE3		