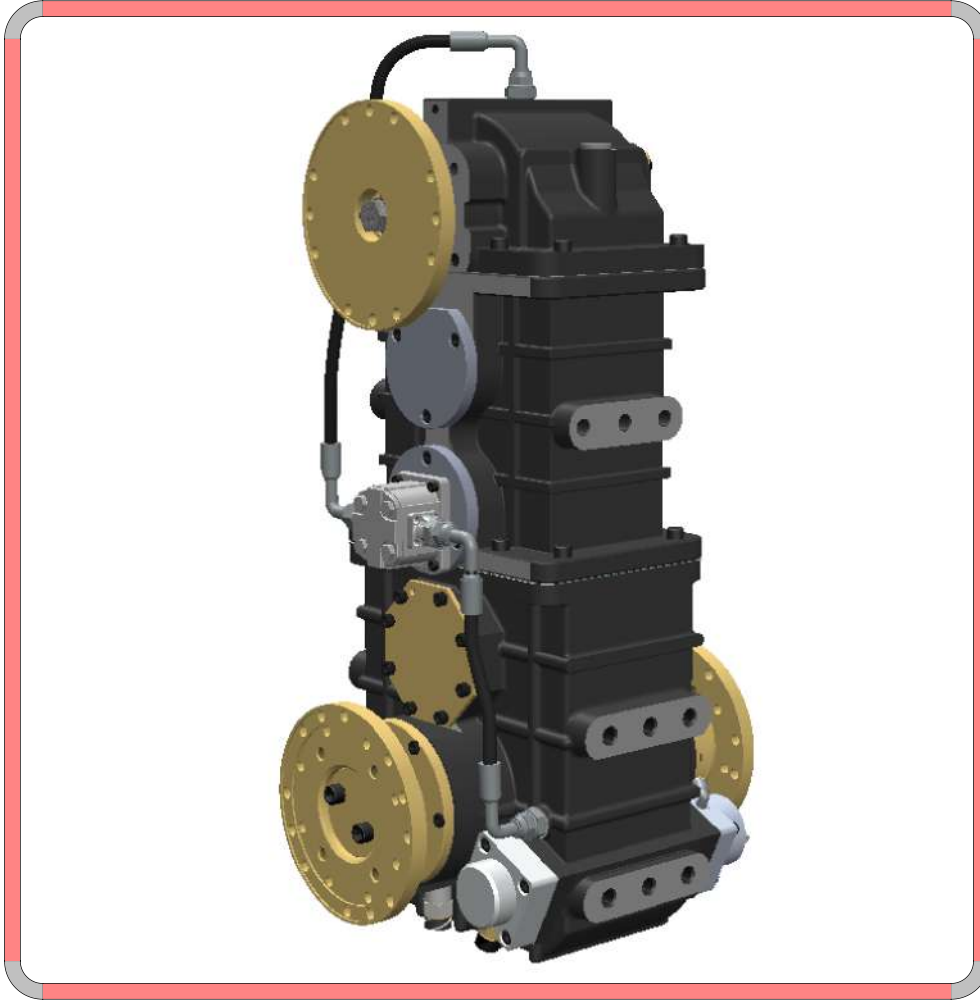


**5 STAGE VERTICAL SPLIT SHAFT PTO**

GENERAL INFORMATION



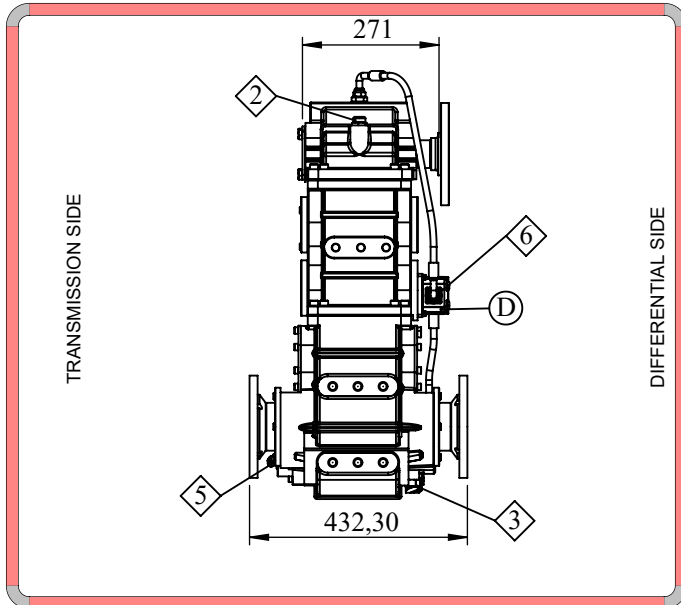
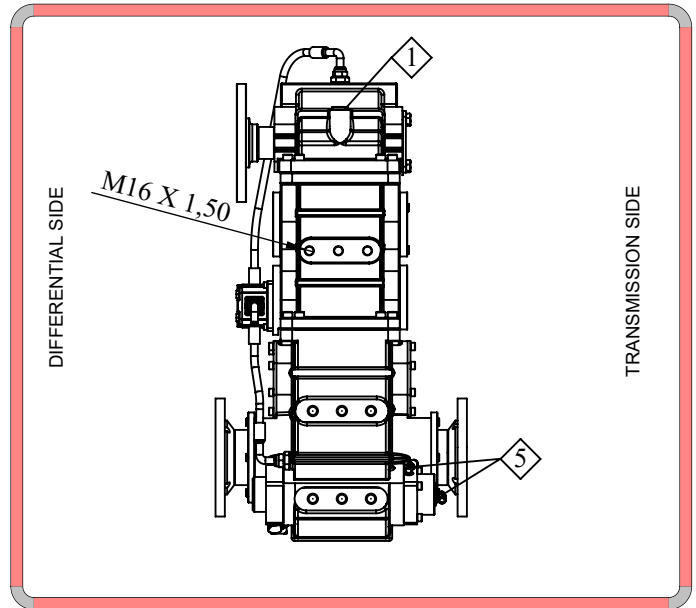
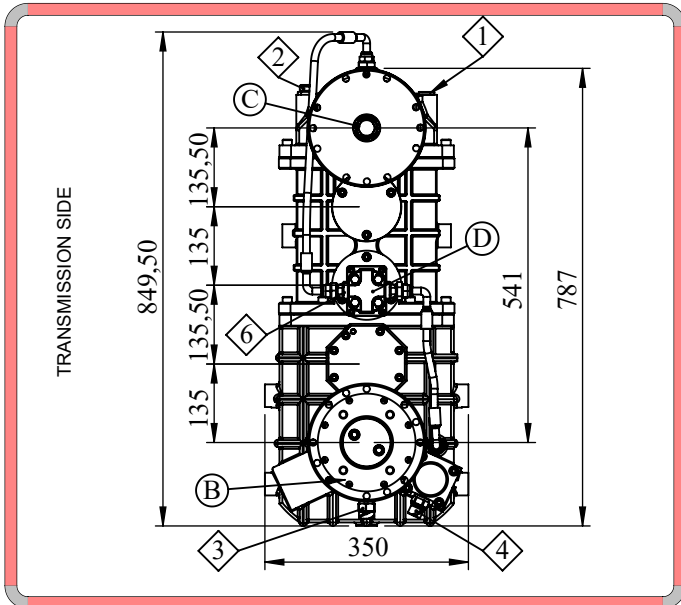
- **5-stage Vertical Split Shaft PTO**
- **Differential Side Pump Output**
- **Pneumatic Control System**

**Applications:**

- **Fire Trucks and Water Tanks**
- **Road Maintenance Trucks**
- **And Other Suitable Applications...**

**5 STAGE VERTICAL SPLIT SHAFT PTO**

OUTPUT INFORMATION



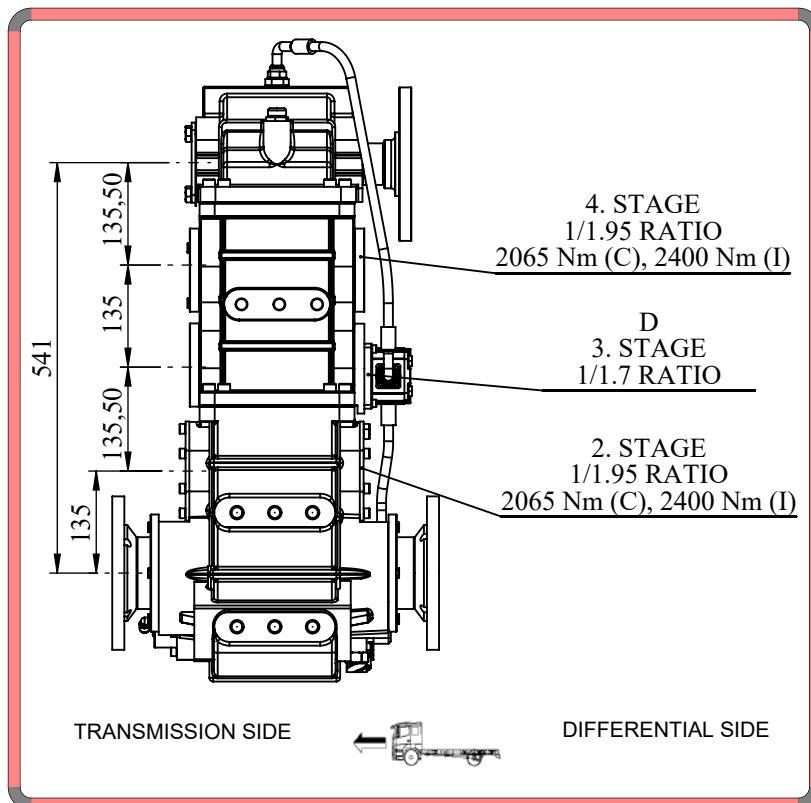
- (A) MAIN INPUT FLANGE
- (B) MAIN OUTPUT FLANGE
- (C) EQUIPMENT OUTPUT FLANGE
- (D) OILING PUMP
- (1) OIL FILLING PLUG
- (2) AIR PLUG
- (3) RPM COUNTER
- (4) ENGAGE/DISENGAGE SENSOR
- (5) AIR ELBOW UNITS (R 1/4" 6mm)
- (6) OIL PRESSURE SENSOR

**5 STAGE VERTICAL SPLIT SHAFT PTO**

## TECHNICAL SPECIFICATIONS

TECHNICAL VALUES			
	MAX. TORQUE	RATIO	MAX. RPM
Ⓐ & Ⓑ	22500 Nm Continuous 34000 Nm Intermittent	1/1	3500 RPM
Ⓒ	2065 Nm Continuous 2400 Nm Intermittent	1/1.7	2800 RPM
Ⓓ	2065 Nm Continuous 2400 Nm Intermittent	1/1.7	2800 RPM

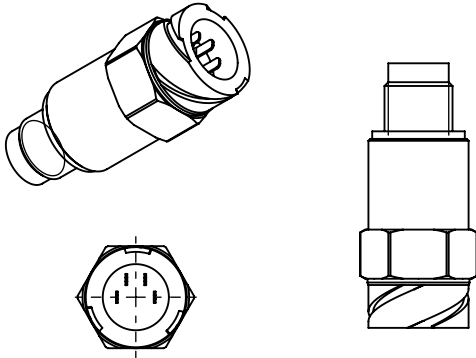
WEIGHT	186 KG
BODY METERIAL	GGG 50 (SFERO)
OIL TYPE & QUANTITY	80W-90 & 5.2 LT



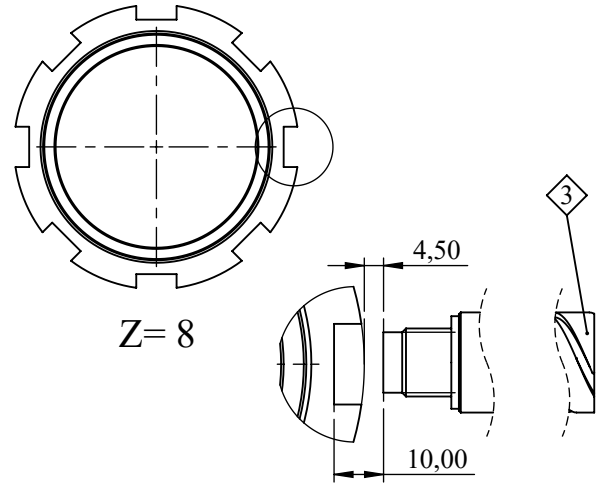
**5 STAGE VERTICAL SPLIT SHAFT PTO**

MISCELLANEOUS

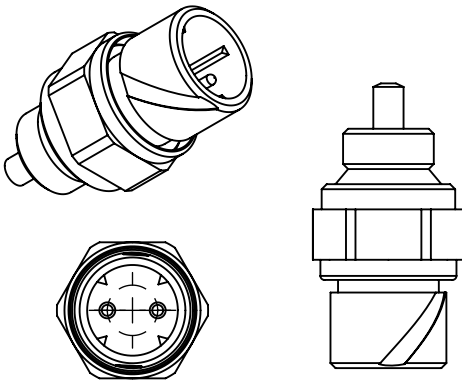
RPM COUNTER  
T12-012



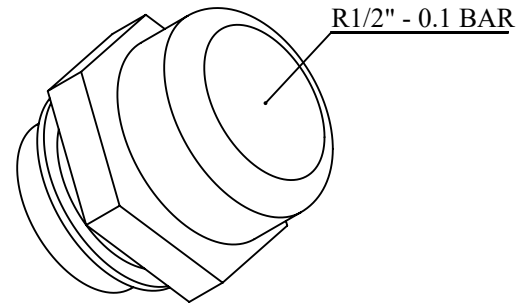
RPM COUNTER INSERT  
C11-524



ENGAGE/DISENGAGE SENSOR  
T12-018



AIR PLUG  
T14-020



**5 STAGE VERTICAL SPLIT SHAFT PTO**

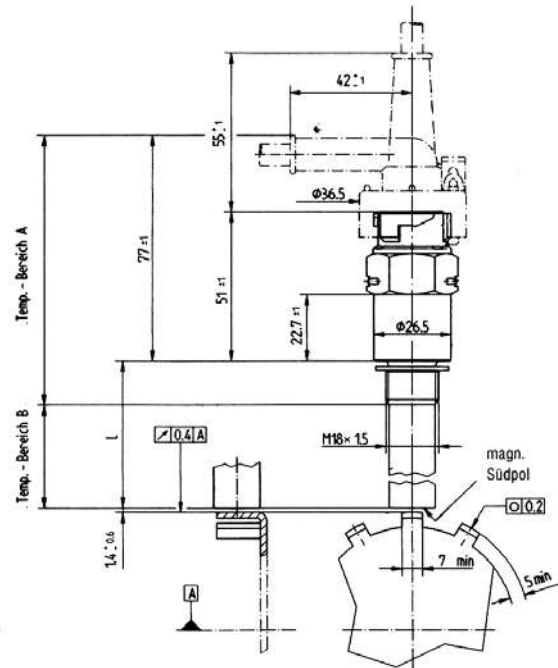
MISCELLANEOUS

# Sender Unit 2159-50

3

**Technical Information**

Output	Double pulse (inverted)
Operating voltage	6 ... 15 V
Power consumption (~U)	max. 16 mA
Operating temperature	A -30°C ...+135°C B -30°C ...+145°C
Storage temperature	A -40°C ...+140°C B -40°C ...+150°C
Connection	unearthed
Protective resistance	1,5 kΩ
Signal shape	rectangular
Frequency (max.)	< 800 Hz
Output signal A1 (idiling)	$U_L \leq 800 \text{ mV}$ ( $U_H \geq 4 \text{ V}$ )
Output signal A2 (idiling)	inversion of A1
Interference protection	depending on additional circui
Radiated susceptibility	DIN 40839 T4 (100V/m)
Outputs, short-circuit proof	30 V, 1 min.
Protection	IEC 529, IP 66
Resistance to vibrations	30 g
Shock resistance	100 g, 11 ms, 50 cycles
Tightness	0,5 bar oil, 120°C, 100h
Scanning speed of pulse wheel (typ.)	$V_{\min}$ circumference $\geq 0,1 \text{ m/s}$ ( $V_{\min}$ vehicle $\approx 1,5 \text{ km/h}$ )
Pulse wheel material (typ.)	St 4 LG RP
Thickness of pulse material	2 mm
Segment/gap (typ.)	1 : 1,5 to 1 : 2
Lenght of segment (typ.)	16 mm
Air gap, Sender unit/pulse wheel (typ.)	1,4 mm
Connection of Sender Unit to Sender Unit cable	via bayonet joint
Connection of Sender Unit to vehicle gearbox	via thread M 18 x 1,5
Torquet (wrench size)	max. 50 Nm (SW 27)
Weight	approx. 90 to 150 g
Dimensions (Ø x L in mm)	approx. 16 x 19,8/25/35 63,2/90/115

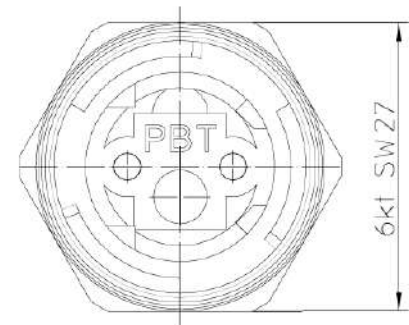
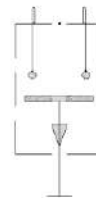


**5 STAGE VERTICAL SPLIT SHAFT PTO**
**MISCELLANEOUS**
*Technical Data*

<i>Housing:</i>	11SMnPb30 , gal. ZnNi
<i>Isolation Part:</i>	PBT GF 30
<i>Operating Pin:</i>	11SMnPb30 surface hardness 650HV30 +100HV30 gal.Ni
<i>Round Terminal:</i>	CuZn alloy gal. Ag
<i>Designation:</i>	manufacture date stamped on the hexagon surface
<i>Application:</i>	tappet switch for axis operating
<i>Max. Torque:</i>	max. 50 Nm
<i>Contact Travel:</i>	see drawing
<i>Actuation Force:</i>	15N ±20% (tripping point) ; 25N ±20% (end position)
<i>Operating Speed:</i>	max.0,5m/sec
<i>Contact:</i>	Ag
<i>Seal:</i>	interior IP67/IP69K iaw ISO 20653 ; connector IP00 iaw ISO 20653
<i>Switch Frequency</i>	max. 200/min
<i>Temperature Range:</i>	-40°C to +150°C
<i>Storage Temperature:</i>	-40°C to +150°C
<i>Vibration:</i>	5g / 100 to 1000Hz
<i>Endurance:</i>	2 Mio. Cycles

*Electrical Characteristics*

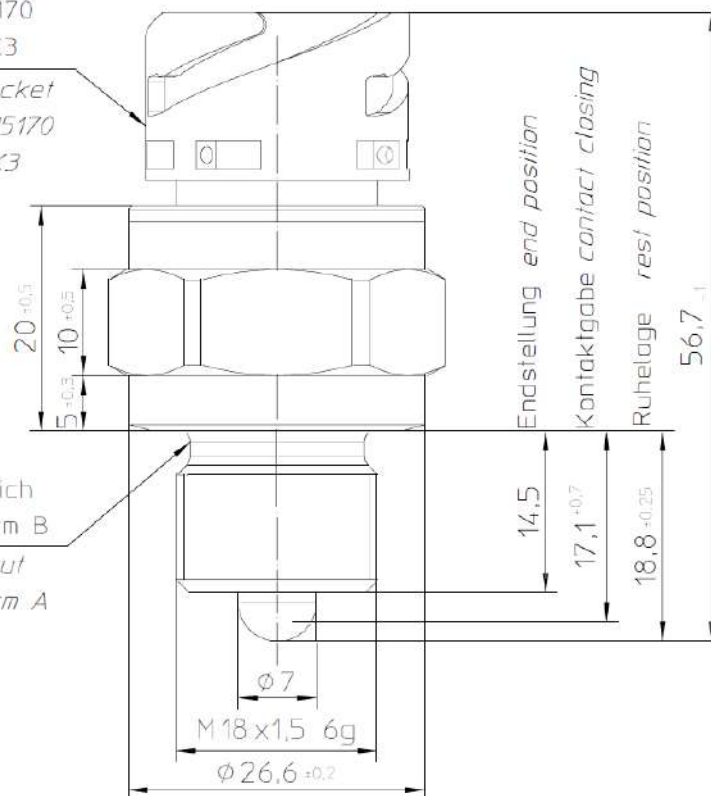
<i>Voltage Range:</i>	9V to 32V DC
<i>Electrical Load:</i>	10mA - 3A ohmic Load

 Schaltbild  
Circuit


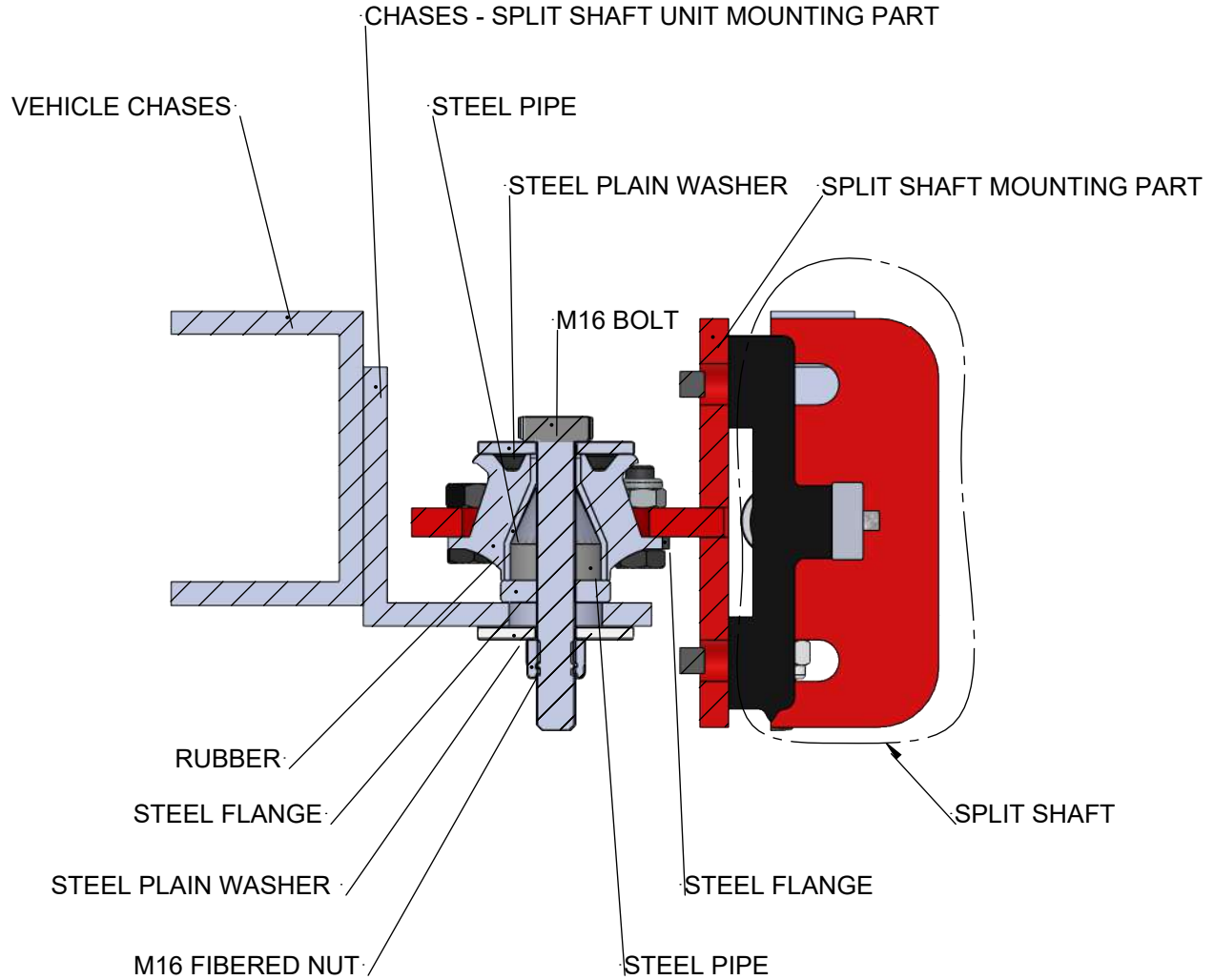
Steckverbindung  
nach ISO 15170  
-A1-2.1-Ag/K3  
Plug and socket  
device ISO 15170  
-A1-2.1-Ag/K3

4

Gewindefreistich  
DIN 3852 Form B  
Treat undercut  
DIN 3852 Form A



**MOUNTING**



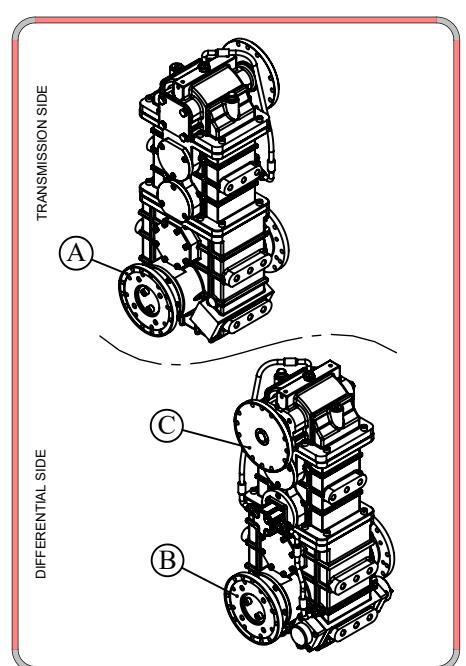
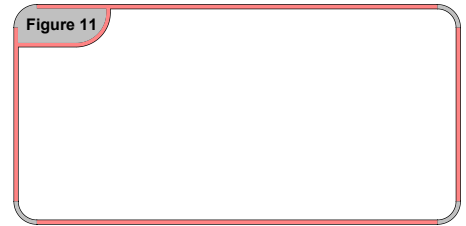
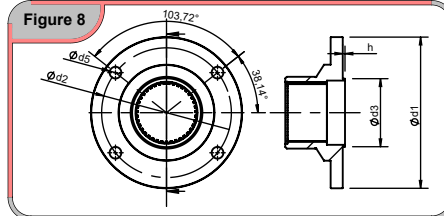
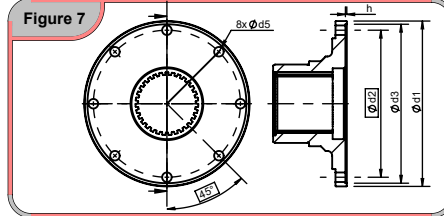
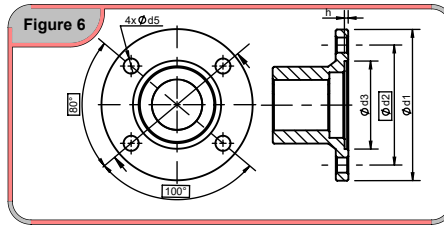
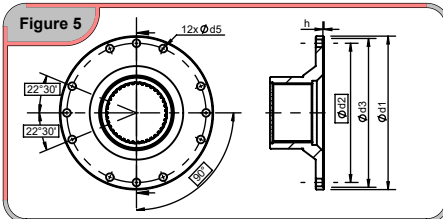
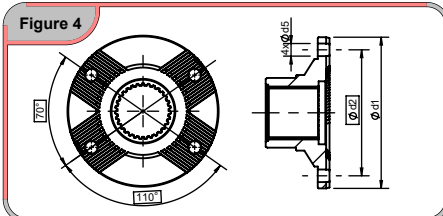
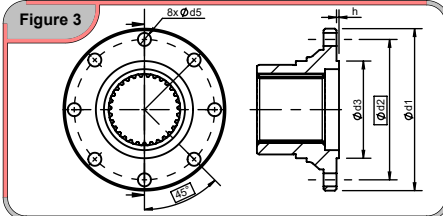
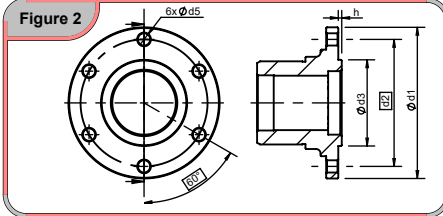
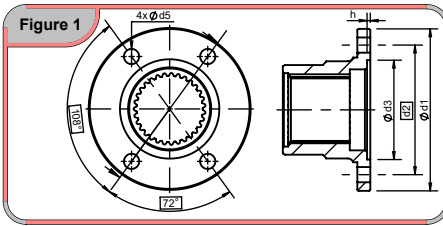
**5 STAGE VERTICAL SPLIT SHAFT PTO**
**OUTPUT OPTIONS**


Figure No	No of Bolt	$\phi d1$	$\phi d2$	$\phi d3$	$\phi d5$	h	Standard	(A)	(B)	(C)
5	12	203	184,12	196,85	11,1	2	SPICER 1810 SERIES	FC06-158	FC06-158	
4	4	180	150		15		ISO 8667	C06-036	C06-036	
4	4	150	130		13		ISO 8667	C06-038	C06-038	
7	8	175	155,57	168,22	10,1	1,5	ISO 7647	C06-086	C06-086	
1	4	180	150	95	14,1	5	ISO 7647	FC06-078	FC06-078	
8	4	200	171,64	90	15,5	3	SPECIAL	FC06-228	FC06-228	
5	12	203	184,15	196,85	11,1	2	SPICER 1710 SERIES			C06-228
7	8	203	184,15	196,85	11,1	2	SPICER 1710 SERIES			C06-229
7	12	203	184,15	196,85	10,1	2	SPICER 1710 SERIES			C06-230
1	4	120	100	80	12,1	2,3	ISO 7647			C06-018
6	4	97	79,37	60,32	10,1	2,3	ISO 7647			C06-212
2	6	100	84	57	8,1	2,3	ISO 7646			C06-170
6	4	116	95,25	69,85	12,1	2,3	ISO 7647			C06-195
2	8	120	101,5	75	10,1	2,3	ISO 7646			C06-115