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Hensoldt Systems

Muzzle Boresights

Hensoldt
precision in action

Missing the target is no option

Protecting, fighting, surviving. A soldier in the field is confronted with various hostile threats, that make an immediate reaction inevitable. Lives and the success of the mission depend on the aiming accuracy of his equipment. The soldier needs to be right on target – always. Missing the target is no option, since it reveals your position or gives the enemy the chance to fight back. Wasting expensive ammunition in a combat zone and an increased risk of collateral damage and friendly fire are additional disadvantages of inaccurate weapon systems that are avoidable.

Because besides firepower it is the first hit probability that defines the combat value of a weapon. It is mission critical and in the field a matter of pure survival. Airbus DS Optronics offers the high-performance Hensoldt Systems Muzzle Boresights to enable armed and security forces worldwide to do their duty with the highest level of aiming accuracy. With decades of experience our high precision tools provide the advantage to keep control in combat situations and outperform the enemy. Covering handheld weapons up to heavy weapon systems Infantrymen or vehicle crews alike benefit from this vast improvement of their survivability and combat capabilities.

Universal accuracy

The Universal Muzzle Boresight Devices line provides the cost effective means to adjust aiming sights of almost all firearms in today's service. This system provides a compatibility from 5.56 to 155 mm caliber for alignment ranges up to 1.200 m. By combining easy handling and extreme durability the user benefits from a fast adjustment of his targeting equipment and almost no lifecycle costs. Usable from factory to crew-level the Universal Muzzle Boresight Devices provide highest precision, where it is needed – on target.

Highest precision

The High Precision Alignment Devices (HiPAD) line has its origin in the German Leopard MBT program. Being used in the Leopard tanks as standard equipment ever since, it stands for proven and unmatched accuracy. It provides the user with the capability of extremely precise long range alignments or short range collimator boresightings of his targeting systems. Thus providing the highest accuracy available – right with the first shot.

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Universal Muzzle Boresight Devices

One boresight telescope fits them all

To keep the costs down and the weight low it needs only a single boresight telescope from the Universal Muzzle Boresight Devices line together with specialized adapters – caliber bars – to cover all relevant weapon systems in service. Aside long training sessions caused by many different equipment types become simply needless.

Fast and easy

Time is money. In the field time can be worth even more. Adjusting a weapon sight with the Airbus DS Optronics boresight devices is a quick, easy and reliable process. A skilled user needs only a few minutes to bring his weapon system back on line.

Self-test capable

Prior to a weapon alignment the boresight equipment is manually centered to the weapon barrel axis. By performing this centering procedure the build-in self-test feature always ensures, that the equipment is fully operational. Preconditioned, that the weapon barrel is in good shape false boresights as well as false repairs of the boresight equipment are easily avoided.

Main features & benefits

- Highest boresighting accuracy
- Ruggedized and long-lasting
- Simple operating concept
- Low lifecycle costs
- Self-test capable
- Long and short range boresighting
- Covers most existing weapons and variants
- Easyly adaptable to new weapon systems
- ITAR-free

SZR Boresight Telescope

SZR 2-1 / 2-3

A boresight telescope needs to be precise and easy to handle. The SZR boresight telescopes have proven to be exactly that in decades of service all around the world.

With boresight ranges up to 1.200 m and the possibility of short range alignments various usability scenarios are covered. Being compatible to more than 50 different caliber bars and much more weapon systems the SZR boresight telescopes offer an unparalleled scope of application. The build in self-test feature ensures their functionality, avoiding fault boresights and unnecessary repairs.

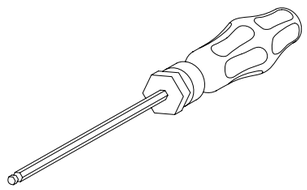
Accessories

SVO lenses for short range alignment

These clip-on lenses provide the easy means for a short range check of a weapon system or performing a boresighting procedure within the confined spaces of a factory or a workshop.

SSTZ 4 Accessories package consisting of:

- Dust brush
- Optical cleaning tissue
- Allen key



SDIV 16 Ballhead screwdriver

Technical Data

SZR Boresight Telescopes

Optical Data		
Product variant	**SZR 2-1**	**SZR 2-3**
Magnification	6x	9.2x
Minimum range (m)	145	340
Maximum range (m)*	800	1200
Focused to	∞	
Field of view (°)	4,87	
Diopter setting (dpt)	+/-5	
Reticle Data		
Line width (mil)	0,08	
Range of division (mil)	+/-30	
Intervals (mil)	1	
Manual centering by	2 setscrews	
System Performance		
Accuracy (mil) (max. deviation relative to gun barrel axis)**	<0,1	
General Data		
Dimensions (mm) (LxWxH)	111x94x42	
Weight (kg)	0.3	
Color	Orange	
Purged with	Nitrogen	
Environmental test (in extracts)	MIL-STD 810G	

Accessories					
Product type	**SVO 1 front lens**	**SVO 2 front lens**	**SVO 3 front lens**	**SSTZ 4 Accessories**	**SDIV 16 Ball Head Screwdriver**
System performance					
Boresight range (m)	9-11	30-70	18-30	n/a	
Consisting of		n/a		Dusting brush, Optical cleaning tissue, Allen Key	n/a

Standard and customized container solutions available on request

* NATO std. target

** Depending on used Caliber Bar type

SKS Caliber Bars

Small Caliber 5.56 - 14.5 mm

Caliber bars provide the link between the weapon and the boresight optics. They display the bore axis of the weapon barrel to be aligned. This way the basic information for a highly accurate boresighting is obtained. The various caliber bars in the Airbus DS Optronics portfolio are specifically designed for particular calibers and weapon types to provide the utmost accuracy.

Small Caliber

The light weapon SKS caliber bars are designed to adjust the targeting optics of submachine guns, assault or sniper rifles and machine guns up to 14.5 mm caliber. No matter if the gun is carried, mounted or part of a weapon station or turret. A highly precise alignment with the boresight tools from Airbus DS Optronics can give the particular weapon a whole new combat value.

Main features & benefits

- Highest alignment precision
- Ruggedized and long-lasting
- Simple operating concept
- No lifecycle costs
- ITAR-free

5.56 mm / 7.5 mm / 7.62 mm

Available for:

- Assault rifles
- Marksman rifles
- Sniper rifles
- Light and medium machine guns

8.5 mm / 8.58 mm / 9 mm

Available for:

- Special calibers for sniper applications
- Submachine guns

12.7 mm / 14.5 mm

Available for:

- 0.5’ heavy machine guns
- Sniper / Anti-material rifles
- Vladimirov super heavy machine gun

Technical Data

Small Caliber 5.56 - 14.5 mm

System Performance von bis						
Product variant	**SKS 5.56-2**	**SKS 5.56-3**	**SKS 7.5**	**SKS 7.5-3**	**SKS 7.62-2**	**SKS 8.5**
Tolerance (mm)	5,52 - 5,56	5,52 - 5,56	7,44 - 7,60	7,45 - 7,90	7,54 - 7,72	8,28 - 8,46
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0,1					
Max. length flash hider / muzzle brake (mm)	n / a	n/a	102	143	122	97
Mechanical Data						
Length (mm)	310	212	271,5	292	271,5	246,5
Stop plate Ø (mm)	21	15	45	45	34	34
Weight (kg)	0,12	0,09	0,15	0,16	0,14	0,14

System Performance von bis						
Product variant	**SKS 8.58**	**SKS 9-01**	**SKS 12.7-11**	**SKS 12.7-41**	**SKS 12.7-51**	**SKS 14.5**
Tolerance (mm)	8,35 - 8,83	8,82 - 8,88	12,50 - 12,85	12,50 - 12,85	12,50 - 12,85	14,30 - 14,65
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0,1					
Max. length flash hider / muzzle brake (mm)	90	35	28	188	188	28
Mechanical Data						
Length (mm)	342	185	298	416	416	210
Stop plate Ø (mm)	17	17	20	22	22	22
Weight (kg)	0,16	0,1	0,26	0,5	0,5	0,24

General Data	
Environmental test (in extracts)	MIL-STD 810G

Other Caliber Bar types on request

Standard and customized container solutions available on request

*In conjunction with SZR boresight telescope

SKS Caliber Bars

Medium Caliber 20 - 40 mm

Caliber bars provide the link between the weapon and the boresight optics. They display the bore axis of the weapon barrel to be aligned. This way the basic information for a highly accurate boresighting is obtained. The various caliber bars in the Airbus DS Optronics portfolio are specifically designed for particular calibers and weapon types to provide the utmost accuracy.

Medium Caliber

Ranging from 20 to 40 mm weapon caliber the SKS medium caliber bars cover all common machine cannon and automatic grenade launcher types in service. By enhancing the accuracy of the connected targeting devices the effect of cover-, support- or precision fire is maximized. Thus equally minimizing the risk of collateral damage or friendly fire.

Main features & benefits

- Highest alignment precision
- Ruggedized and long-lasting
- Simple operating concept
- No lifecycle costs
- ITAR-free

20 mm / 25 mm / 27 mm

Available for:

- Rheinmetall MK20 Rh 202
- Mauser BK-27
- MLG 27
- Oerlikon KA
- Oerlikon KB
- ATK M242 Bushmaster

(Other weapon types on request)

30 mm / 35 mm / 40 mm

Available for:

- ATK M 230 Chain Gun
- Mauser MK 30
- Rheinmetall MK 30-2
- ATK MK 44 Bushmaster II
- Shipunov 2A42
- Rheinmetall 35 / 1000
- Oerlikon KD
- Bushmaster III
- Bofors L60 / L70

(Other weapon types on request)

40 mm Grenade Launchers

Available for:

- H&K GMW
- MK 19 automatic grenade launcher
- CIS 40 AGL

(Other weapon types on request)

Technical Data

Medium Caliber 20 - 40 mm

System Performance						
Product variant	**SKS 20-11**	**SKS 20-21**	**SKS 25-21**	**SKS 27-01**	**SKS 30-21**	**SKS 30-41**
Tolerance (mm)	19,85 - 20,30	19,85 - 20,30	25,00 - 25,25	27,0 – 27,3	30,00 - 30,40	30,00 - 30,40
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0,1					
Max. length flash hider / muzzle brake (mm)	87	193	215	39	229	229
Mechanical Data						
Length (mm)	325	431	490	310	550	550
Stop plate Ø (mm)	40	48	58	58	58	87
Weight (kg)	0,7	0,8	1,2	1,2	1,7	1,7

System Performance von bis						
Product variant	**SKS 30-51**	**SKS 35-01**	**SKS 35-31**	**SKS 40-31**	**SKS 40-41**	**SKS 40-71**
Tolerance (mm)	30,00 - 30,40	34,97 - 35,53	34,97 - 35,53	40,80 - 41,20	39,92 - 40,45	40,65 - 41,40
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0,1					
Max. length flash hider / muzzle brake (mm)	90	225	449	149	324	190
Mechanical Data						
Length (mm)	378	507	853	438,5	616	482,4
Stop plate Ø (mm)	58	120	100	58	stop rod 174	58
Weight (kg)	1,5	1,82	2,3	2,35	2,6	2,43

General Data	
Environmental test (in extracts)	MIL-STD 810G

Other Caliber Bar types on request

Standard and customized container solutions available on request

*In conjunction with SZR boresight telescope

SKS Caliber Bars

Large Caliber 57 - 155 mm

Caliber bars provide the link between the weapon and the boresight optics. They display the bore axis of the weapon barrel to be aligned. This way the basic information for a highly accurate boresighting is obtained. The various caliber bars in the Airbus DS Optronics portfolio are specifically designed for particular calibers and weapon types to provide the utmost accuracy.

Large Caliber

Heavy weapons from 57 to 155 mm caliber have the longest range and use the most effective but also expensive ammunition. To be of utmost effectiveness they have to rely on the highest possible aiming accuracy. The SKS caliber bars for heavy weapons from Airbus DS Optronics help to gain nothing less.

Main features & benefits

- Highest alignment precision
- Ruggedized and long-lasting
- Simple operating concept
- No lifecycle costs
- ITAR-free

57 mm / 76 mm / 84 mm / TOW

Available for:

- 57 mm Bofors cannon
- 76 mm naval cannon
- FFV Carl Gustaf recoilless rifle
- M3 MAAWS recoilless rifles
- TOW launcher system

(Other weapon types on request)

90 mm / 105 mm / 120 mm / 125 mm / 155 mm

Available for:

- 90 / 105 / 120 / 125 mm tank cannon
- 120 mm mortar systems
- 105 / 155 mm howitzers

(Other weapon types on request)

Technical Data

Large Caliber 57 - 155 mm

System Performance					
Product variant	**CB 57-2**	**SKS 76-1 A1**	**SKS 76-4**	**SKS 84**	**SKS TOW**
Tolerance (mm)	56,00 - 57,60	75,90 - 76,50	75.90 - 76,50	83,80 - 84,20	n/a
Accuracy (mil) (max. deviation relative to gun barrel axis)*	<0,1				< 0,2
Max. length flash hider / muzzle brake (mm)	n/a	354	50	57	n/a
Mechanical Data					
Length (mm)	888	890	520	474	158
Stop plate Ø (mm)	stop rod 274	220	220	92	n/a
Weight (kg)	4,6	4,2	5,1	4,5	0,1
Protective cap	n/a	SVP 103	SVP 103	n/a	n/a

System Performance								
Product variant	**SKS 90-2 A1**	**SKS 105**	**SKS 105-1**	**SKS 120-1**	**SKS 125**	**SKS 125-1**	**SKS 155**	**SKS 155-3**
Tolerance (mm)	89,70 - 90,31	104,90 - 105,60	104,83 - 105,70	119,90 - 120,80	124,80 - 125,80	124,80 - 128,20	154,80 - 155,80	154,80 - 155,80
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0,1							
Max. length flash hider / muzzle brake (mm)	338	57	415	137	137	137	650	650
Mechanical Data								
Length (mm)	772	555	913	678	688	678	1280	1280
Stop plate Ø (mm)	130	130	113	155	155	155	185	235
Weight (kg)	3,7	4,5	3,5	4,5	5,2	5,2	8,3	8,3
Protective cap	SVP 103	SVP 103	fix	fix	fix	fix	fix	fix

General Data	
Environmental test (in extracts)	MIL-STD 810G

Other Caliber Bar types on request

Standard and customized container solutions available on request

*In conjunction with SZR boresight telescope

ZLP Boresight Telescope

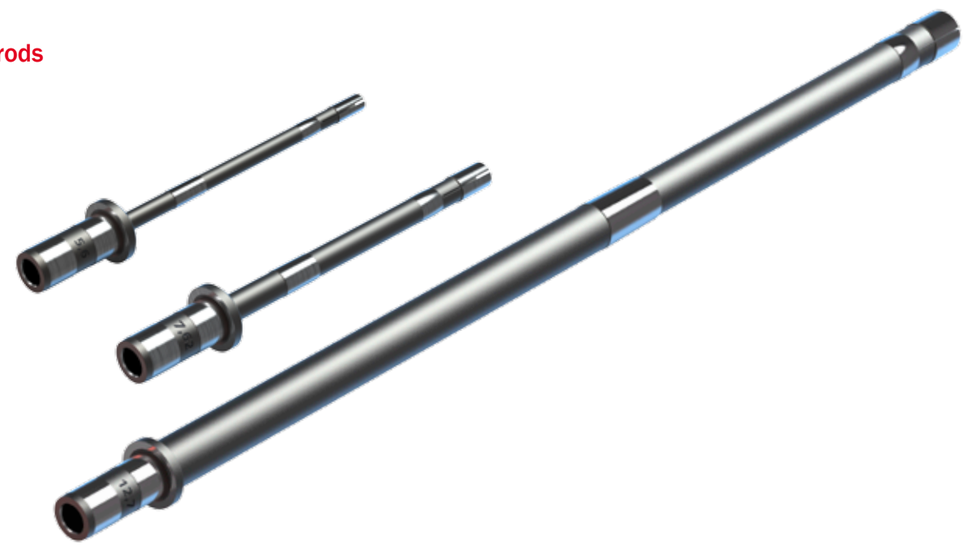
Dual-Purpose

Meeting the accuracy requirements of both small arms and industrial applications Airbus DS Optronics offers the ZLP boresight telescope. Being able to provide a military and a civil variant this formidable tool covers the standard NATO calibers up to 12,7 mm and can also be used in the high precision setup of special machine tools and other precision requiring industrial hardware.

Main features & benefits

- Highest alignment accuracy
- Ruggedized and long-lasting
- Simple operating concept
- Low lifecycle costs
- Self-test capable
- Zoom lens
- Civil and military variant
- ITAR-free

ZLP insert rods



Technical Data

ZLP Boresight Telescope

General Data				
Dimensions (mm) (L x W x H)	96 x 36 x 63			
Weight (kg)	0.2			
Color	Black			
Environmental test (in extracts)	MIL-STD 810G			
Optical Data				
Product variants	**Military reticle**		**Civil reticle**	
Magnification	6 x			
Minimum range (m)	0,5			
Maximum range (m)*	800			
Focused to	∞			
Field of view (°)	4,87			
Diopter setting (dpt)	-0,5 fixed			
Reticle Data				
Line width (mil)	0,60		0,13	
Manual centering by	2 setscrews			
System Performance				
Accuracy (mil) (max. deviation relative to gun barrel axis)**	< 0,3			

Accessory				
Insert rod types (mm)	**5.56**	**7.62**	**9.0**	**12.7**
Length (mm)	130.5			357,5
Stop plate Ø (mm)	18			
Weight (g)	30	41	50	332
Accessory Kit				
Consisting of	Dusting brush, Optical cleaning leather, Allen Key			

* NATO std. target

** Depending on used caliber bar type

High Precision Alignment Devices (HiPAD)

Highest precision – a proud heritage

The HiPAD boresight equipment carries on a proud heritage since it has been developed as the standard equipment for the renowned Leopard MBT-series and the SPH2000 self-propelled howitzer. One reason for the success of these weapon systems is their extraordinary accuracy. Made possible by the HiPAD boresight devices from Airbus DS Optronics.

Adjustable caliber bars

No weapon is like the other. Over time weapon barrels do not stay the same or manufacturing parameters can change. And these tiny differences affect the aiming accuracy. The HiPAD caliber bars use adjustable buffers to fit each barrel perfectly, providing a perfect alignment result - each time.

Main features & benefits

- Highest boresighting accuracy available
- Simple operating concept
- Low maintenance
- Self-test capable
- Variants for long and short range alignment
- Adjustable self-centering caliber bars
- ITAR-free

Self-centering

The self-centering nature of the CB caliber bars ensures, that the barrel center axis is always displayed correctly. No additional centering procedure is needed prior to the boresighting process. This saves time and means a shorter downtime for maintenance. Additionally this feature allows to detect barrel-inside damaging up to a certain point.

Short range boresighting

Ever thought of lining up all vehicles in a row and boresight them one after another? Right where you are? With minimal effort and an extraordinary accuracy? In this case the HiPAD boresight collimators from Airbus DS Optronics are your choice.

Synchronous operation

A ballistic calculation relies on the synchronous elevation of the weapon barrel and the line of sight of its targeting device. If they do not move in unison hitting a target becomes highly questionable. The Synchronous Operation Test Devices from Airbus DS Optronics are the tools for maintaining the reliability of the ballistics and therefor keeping a vehicle in perfect fighting condition.

BT Boresight Telescopes

Short And Long Range

Accuracy on every distance

Highest precision is one primary key to military success. To enhance the accuracy of medium and heavy weapons to the very limit the BT type boresight telescopes from Airbus DS Optronics are the perfect choice.

No matter if the weapon sight adjustment is done on a shooting range or during maintenance in a vehicle depot, the BT boresight telescopes are the applicable tool. The long range variant displays average fighting distances up to 2000 meters with the highest precision available on the market. In case the measuring distance is limited, the short range collimator variant becomes appropriate. It provides an equally high precision by using an additional alignment collimator directly in front of the vehicle.

BT4x

The BT4x boresight telescopes for short range alignment is the link between the CB caliber bars and the HiPAD boresight collimators. Thus providing the accuracy of a long-range boresighting on short distances.

BT10x

With the BT10x boresight telescope the HiPAD system offers a tool, that gives a long-range adjustment an extraordinary precision in combination with the highly accurate CB caliber bars.

Technical Data

BT Boresight Telescopes

Optical Data				
Product variant	**BT 4 x A2**	**BT 4 x A3**	**BT 10 x**	**BT 10 x mod.**
Magnification	4 x		10 x	
Tolerance range (m)	400 to ∞	n / a	400 to ∞	
Optical system adjusted to (m)	1500	n / a	1500	
Maximum range (m)*	n / a		2000	
Focus range (m)	n / a	0,6 - 400	n / a	
Field of view (°)	10,7		4,3	
Diopter setting (dpt)	+/- 5			
Reticle Data				
Reticle type	Special reticle compatible to K / KTW 18m collimators		Cross	
Line width (mil)	0,2		0,05	
Range of division (mil)	n / a		n / a	+/- 25
Intervals (mil)	n / a		n / a	2 / 1
Elevation marks second reticle (mil)	n / a		n / a	-5 - +30
System Performance				
Accuracy (mil) (max. deviation relative to gun barrel axis)**	< 0.25 - 0.10			
General Data				
Dimensions (mm) (L x W x H)	217 x 70 x 148	240 x 70 x 150	308 x 62 x 148	306 x 84 x 149
Weight (kg)	1.0		1,1	1.7
Color	Green			
Purged with	Nitrogen			
Environmental test (in extracts)	MIL-STD 810G			

*NATO std. target
**Depending on used caliber bar type

HiPAD Boresight Collimators

Short Range Boresighting

Boresighting in confined spaces

Being in a workshop or a vehicle depot leaves not much room for boresighting. Driving to a shooting range for a long-range alignment or a test shooting takes time, costs money and binds resources.

Instead the HiPAD Boresight Collimators simulate a firing distance of 1.500 meters with the same accuracy as a comparable long range alignment making them the perfect solution for short range targeting sight adjustments.

Main features & benefits

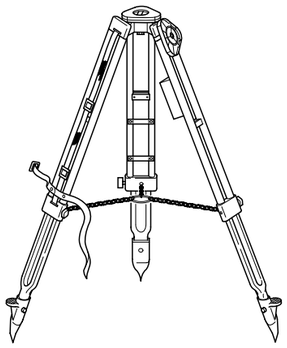
- Highest alignment precision available
- Low maintenance
- Borsighting of different sight systems simultaneously
- Vehicle adapted reticles on demand
- Less than 18 metres free distance needed for boresighting
- ITAR-free

K18m

The K18m boresight collimator with its single collimator array is the standard application for extremely precise short range alingments.

KTW18m

The KTW18m boresight collimator offers the same accuracy as its smaller counterpart but also has the ability to adjust thermal sights as well.



Accessories

SST9 Tripod

Height adjustable tripod for mounting a HiPAD boresight collimator.

Technical Data

HiPAD Boresight Collimators

Optical data		
Product variant	**K 18m**	**KTW 18m**
Tolerance range (m)	750 - ∞	
Optical system adjusted to (m)	1500	
Mechanical Data		
Dimensions (mm) (L x W x H)	335 x 230 x 330	335 x 355 x 320
Weight (kg)	13	18
Dimension case (mm)	600 x 400 x 500	
Weight case (kg)	17	24
System Performance		
Setup range in front of vehicle (m)	10-18	
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0.25 - 0.10	
General Data		
Environmental test (in extracts)	MIL-STD 810G	

Accessories	
Product Type	**SST9 Tripod**
System Performance	Tripod for K18m / KTW18m
Mechanical Data	
Dimension (mm)	Ø 200, 1050-1700 height
Weight (kg)	6,2
Customized reticles on request	

*Compatible with HiPAD BT4x boresight telescope series

CB Calibre Bars

Adjustable And Self-Centering

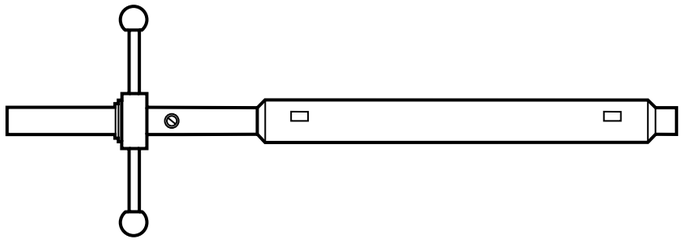
A misfired shot equals a threat, maybe a failed mission but at least burned money. The high precision CB caliber bars from the HiPAD line are especially designed to counter these disadvantages. Being adjustable and self-centering they fit to weapon systems between 20 to 155 mm caliber. Ensuring the highest aiming accuracy available the HiPAD caliber bars from Airbus DS Optronics help to bring the enemy down and our soldiers home.

Main features & benefits

- Highest alignment precision available
- Simple operating concept
- Low maintenance
- Adjustable buffers
- Self-centering
- ITAR-free

CB 20, 25, 35, 40

Enabling machine cannon calibers to utilize the HiPAD accuracy the medium CB caliber bars are the perfect match. Either having the possibility for long and short range alignments, there is always a way to make a weapon system fit for duty.



CB 120, 138, 155, 260

Adjustable from diameter 74 - 260 mm the CB caliber bars cover a wide range of application when it comes to bore-sighting of heavy weapons. Amongst others they give the Leopard 2 MBT and the SPH2000 their extraordinary aiming accuracy and combat value.

Technical Data

CB Calibre Bars

Mechanical Data				
Product variant	**CB 20**	**CB 25**	**CB 35**	**CB 40**
Length (mm)		603		
Weight (kg)	1,0	1.2	2.7	3.3
System Performance				
Tensioning range (mm)	19,8 – 22,5	24.8 - 27.5	34.5 - 37.5	39.5 - 42.5
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0.25	< 0.10	< 0.25	

Mechanical Data				
Product variant	**CB 120**	**CB 138**	**CB 155**	**CB 260**
Length (mm)	745		1526	820
Weight (kg)	5.3	4.8	14.9	10.2
System Performance				
Tensioning range (mm)	100 - 127	74 - 138	155 - 260	119.5 - 260
Accuracy (mil) (max. deviation relative to gun barrel axis)*	< 0.10	< 0.25	< 0.10	< 0.25
General Data				
Environmental test (in extracts)	MIL-STD 810G			
Including	Handles, detachable			

Accessories	
Product Type	**Extension rod** 400 mm

Standard and customized container solutions available on request

*In conjunction with BT boresight telescope

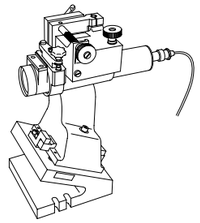
Synchronous Operation Test Devices

Moving In Unison

Not only the aiming system needs to be thoroughly aligned to the weapon. Both their movements during the aiming process must be as well. If not done so the ballistic calculation used to make a weapon effective on long ranges becomes useless. The synchronous operation test devices from Airbus DS Optronics measure both the elevation of weapon barrel and targeting system, providing the ability to check, to adjust and to hit.

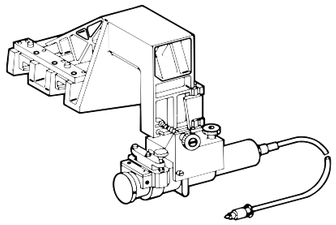
Main features & benefits

- Highest weapon accuracy
- Low maintenance
- Self-Test capable
- ITAR-free



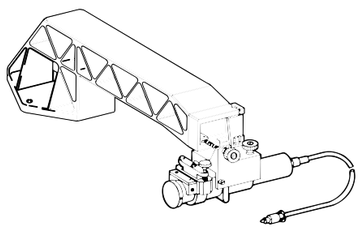
GPG ASP

Designed for the gunner sight of the Leopard 1 MBT.



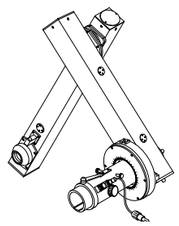
GPG EMES 15

Designed for the EMES gunner sight of the Leopard 2 MBT (up to A4 version).



GPG EMES 15 KWS

Designed for the EMES gunner sight of the Leopard 2 MBT (A5 version +)



GPG universal

Standard equipment for the gunner sights of the SPH2000 and Marder IFV but also customizable to fit other vehicle types.

Technical Data

Synchronous Operation Test Devices

Mechanical Data				
Product variant	**GPG ASP**	**GPG EMES 15**	**GPG EMES 15 KWS**	**GPG universal**
Axial (°)		4,0		n/a
Vertical (°)		2,5		n/a
Horizontal (°)		2,5		n/a
Dimensions (mm) (L x W x H)	160 x 149 x 171	494 x 336 x 315	740 x 255 x 315	240 x 550 x 708
Weight (kg)	6,5	12,0	11,5	18,0
Dimensions case (mm)	400 x 402 x 560	400 x 402 x 560	400 x 310 x 850	400 x 800 x 800
Weight case (mm)	21,5	19,0	25,0	27,0
Optical Data				
Collimator focal length (mm)		282		120
Entrance pupil diameter (mm)		50		38
Self-calibration - entrance to exit (mil)		n/a		± 0,05
Tolerance range (m)		n/a		500 - ∞
System Performance				
Specially fitted for	Leopard 1 MBT	Leopard 2 MBT up to A4	Leopard 2 MBT A5+	Universal
Electrical Data				
Illumination unit	n/a	n/a	28V/3W	n/a
Environmental test (in extracts)				
	MIL-STD 810G			

*In conjunction with BT boresight telescope

Container Solutions

Perfect Working Condition

The Airbus DS Optronics boresight devices are high precision measuring equipment. Despite being extremely rugged proper storage is essential to keep the equipment in perfect working condition for years or even decades to come. The SVP container product line offers various storage and transport solutions for different needs and combinations. Our standard containers provide a cost-effective possibility for keeping the equipment safe. Even under field conditions. Containers customized on request or especially tailored solutions respond to the requirements of small spaces in specific vehicles or weapon systems.

Main features & benefits

- Standard containers according to MIL-STD
- Ruggedized and long-lasting
- Customized containers solutions on request

SVP 2600 container with boresight kit for generic weapon station (5.56, 7.62, 12.7 and 40 mm)

SVP 3100 container with boresight kit for Cockerill 90 mm turret

Technical Data

Container Solutions

Description							
Product variant	**SVP 2100**	**SVP 2600**	**SVP 2700**	**SVP 2950**	**SVP 3100**	**SVP 3200**	**SVP 3101**
Product line	**UMBD**						**HiPAD**
General Data							
Dimensions (mm) (L x W x H)	361 x 289 x 165	538 x 406 x 211	625 x 500 x 218	795 x 518 x 310	1011 x 419 x 170	1198 x 419 x 170	1011 x 419 x 170
Weight (kg)	2.2	5.3	6.5	13.0	9.0	9.6	9.0
Color	Black						
Possible content							
Boresight telescope	SZR 2-1/2-3						BT 10 x
Calibre bar 1	SKS 12.7-11/-31	SKS 20-11/-21 or SKS 25-21 or SKS 30-21/41/51 or SKS 35-21/-41 or SKS 40-31/-71	SKS 105	SKS 120-1 or SKS 125/-1	SKS 90-2 A1/-3	SKS 105-1	CB 120
Calibre bar 2	SKS 7.62/-2/-7/-8/-9	SKS 12.7-11/-31/-41/-51					n/a
Calibre bar 3	SKS 5.56-2/-3/-4	SKS 5.56-2/-3/-4 or SKS 7.5/-3 or 7.62/-2/-7/-8/-9					n/a
Manual	1						
SSTZ 4	1						
SDIV 16	1						n/a
SVO	3						n/a