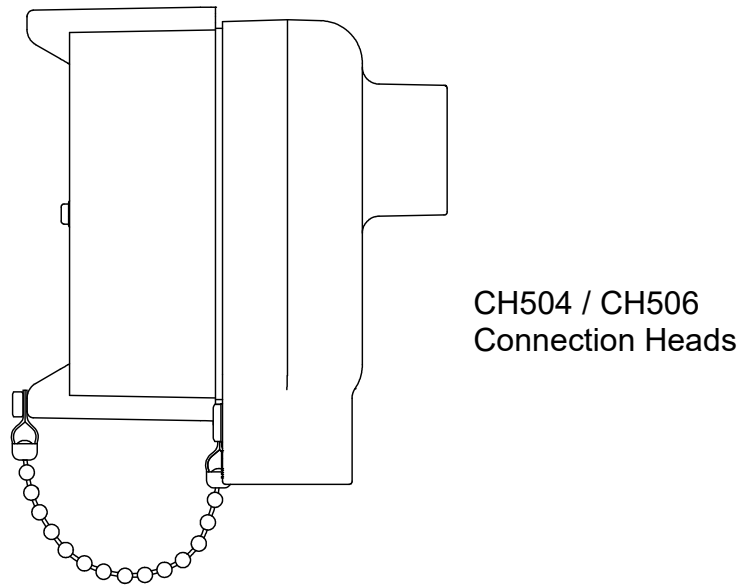
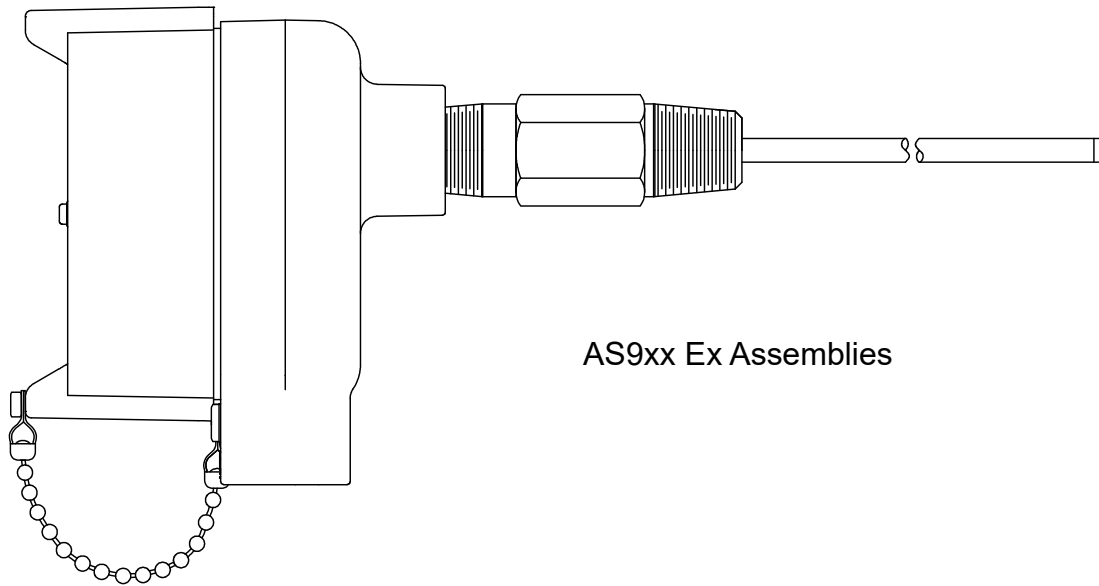


Comparison of Old Ex Assemblies and Connection Heads to AS9xx Ex Assemblies and CH504/CH506 Heads



This document presents the comparisons between Minco's newest AS9xx Ex Assemblies and CH504/CH506 Ex Connection Heads to the old assemblies and connection heads that have been replaced. The new assemblies and connection heads combine all of the old assembly and connection head certifications into one package that has certifications for ATEX, IECEx, and North America (U.S. and Canada). The North American certifications include for both the Divisions and Zones systems.

AS9xx assemblies provide several options for connection heads, spring-loaded holders (SLH) or welded fittings, and many of the same options as the old assemblies.




There are cross reference tables listing the old versus new assemblies and the old versus new connection heads, in addition to sketches showing the dimensional differences.

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AS9xx Ex Assemblies Certifications

ATEX/IECEX:

Intrinsic Safety:  II 1G Ex ia IIC T6...T2 Ga
Flameproof:  II 2G Ex db IIC T6...T2 Gb
Dust Proof:  II 2D Ex tb IIIC T85...T160°C Db

U.S. and Canada:

I.S./XP, CI I, Div 1, Groups BCD (no Group A) T6...T2
DIP, CI II Div 1, Groups EFG, CI III Div 1 T85...T160°C
U.S.: CI I, Zone 0, AEx ia IIC Ga; CI I, Zone 1, AEx db IIC Gb; Zone 21, AEx tb IIIC Db
Canada: Ex ia IIC Ga; Ex db IIC Gb; Ex tb IIIC Db

Certifications for the connection heads are listed in the Ex Connection Heads Cross Reference List.



Ex Sensor Assembly Cross Reference List

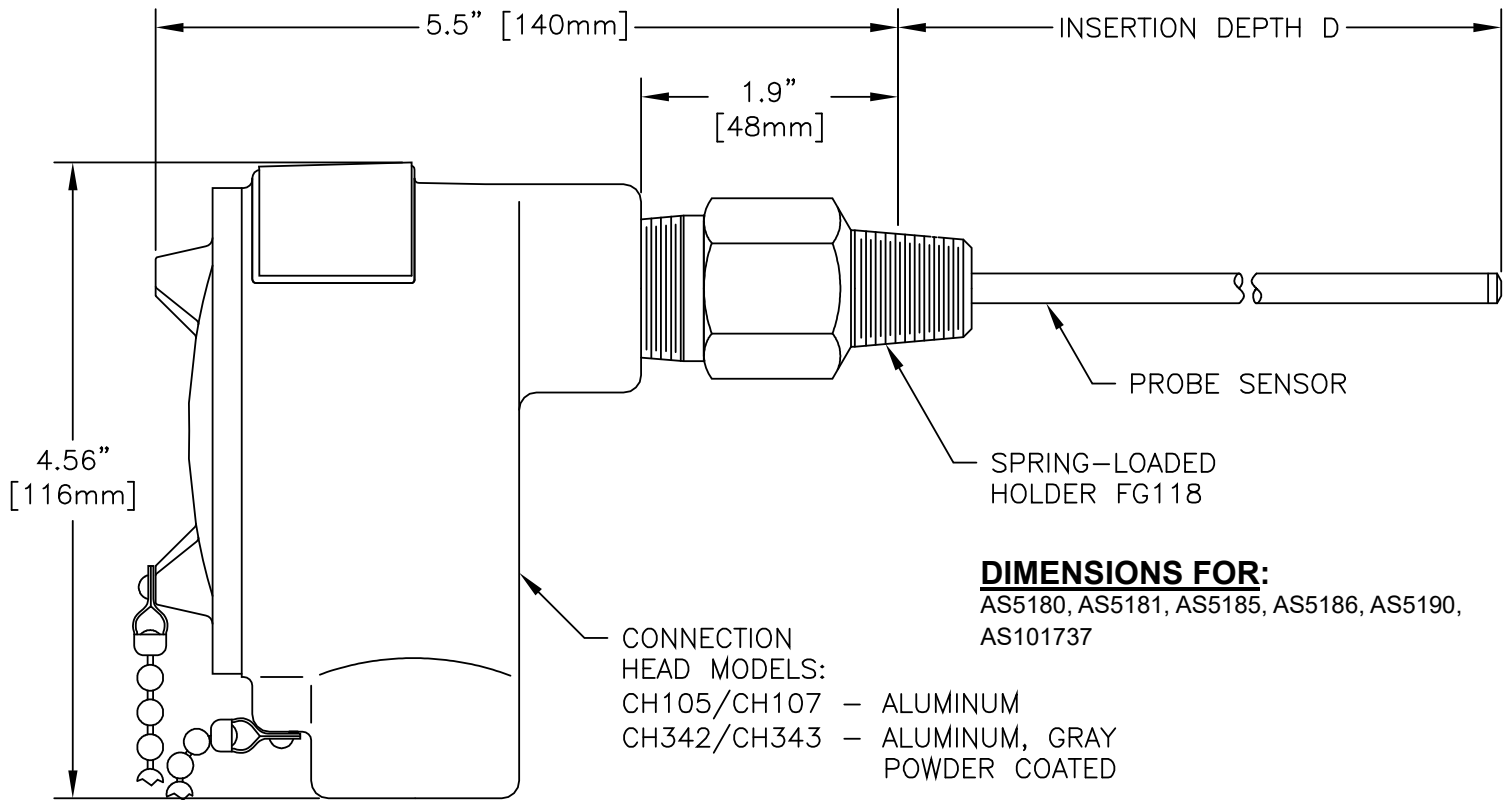
AS51xx, AS53xx, MAS6xx, AS7xx, AS8xx vs New AS9xx Ex

Case and Element style	Probe Dia *	OLD ASSEMBLIES					NEW AS9xx
		AS51xx	AS53xx	MAS6xx	AS7xx	AS8xx	
Tip-sensitive probe, single element RTD	.250"	---	AS530	MAS620	AS720	AS810	AS900
	.236"	---	---	MAS600	AS700	AS800	AS901
	.215"	AS5180	---	---	AS760	---	AS902
	.215" TW	---	---	---	---	---	AS903
	.188"	---	---	MAS640	AS740	AS820	AS904
Tip-sensitive probe, dual element RTD	.250"	---	AS531	MAS621	AS721	AS811	AS910
	.236"	---	---	MAS601	AS701	AS801	AS911
	.215"	AS5181	---	---	AS761	---	AS912
	.215" TW	---	---	---	---	---	AS913
	.188"	---	---	MAS641	AS741	AS821	AS914
Stem sensitive probe, single element RTD	.250"	---	AS532	MAS622	AS722	AS812	AS920
	.236"	---	---	MAS602	AS702	AS802	AS921
	.215"	---	---	---	AS762	---	AS922
	.188"	---	---	MAS642	AS742	AS822	AS924
Stem sensitive probe, dual element RTD	.250"	---	AS533	MAS623	AS723	AS813	AS930
	.236"	---	---	MAS603	AS703	AS803	AS931
	.215"	---	---	---	AS763	---	AS932
	.188"	---	---	MAS643	AS743	AS823	AS934
MgO filled probe, single element RTD	.250"	---	AS534	MAS624	AS724	AS814	AS940
	.236"	---	---	MAS604	AS704	AS804	AS941
MgO filled probe, dual element RTD	.250"	---	---	---	AS725	AS815	AS950
Tip-sensitive probe, single element thermocouple	.250"	---	AS536	MAS626	AS726	AS816	AS960
	.236"	---	---	MAS606	AS706	AS806	AS961
	.215"	AS5185	---	---	AS766	---	AS962
	.215" TW	---	---	---	---	---	AS963
	.188"	---	---	MAS646	AS746	AS826	AS964
Tip-sensitive probe, dual element thermocouple	.250"	---	AS537	MAS627	AS727	AS817	AS970
	.236"	---	---	MAS607	AS707	AS807	AS971
	.215"	AS5186	---	---	AS767	---	AS972
	.215" TW	---	---	---	---	---	AS973
	.188"	---	---	MAS647	AS747	AS827	AS974
MgO filled probe, single element thermocouple	.250"	---	AS538	MAS628	AS728	AS818	AS980
	.236"	---	---	MAS608	AS708	AS808	AS981
	.188"	---	---	MAS648	AS748	AS828	AS984
MgO filled probe, dual element thermocouple	.250"	---	AS539	MAS629	AS729	AS819	AS990
	.236"	---	---	MAS609	AS709	AS809	AS991
	.188"	---	---	MAS649	AS749	AS829	AS994

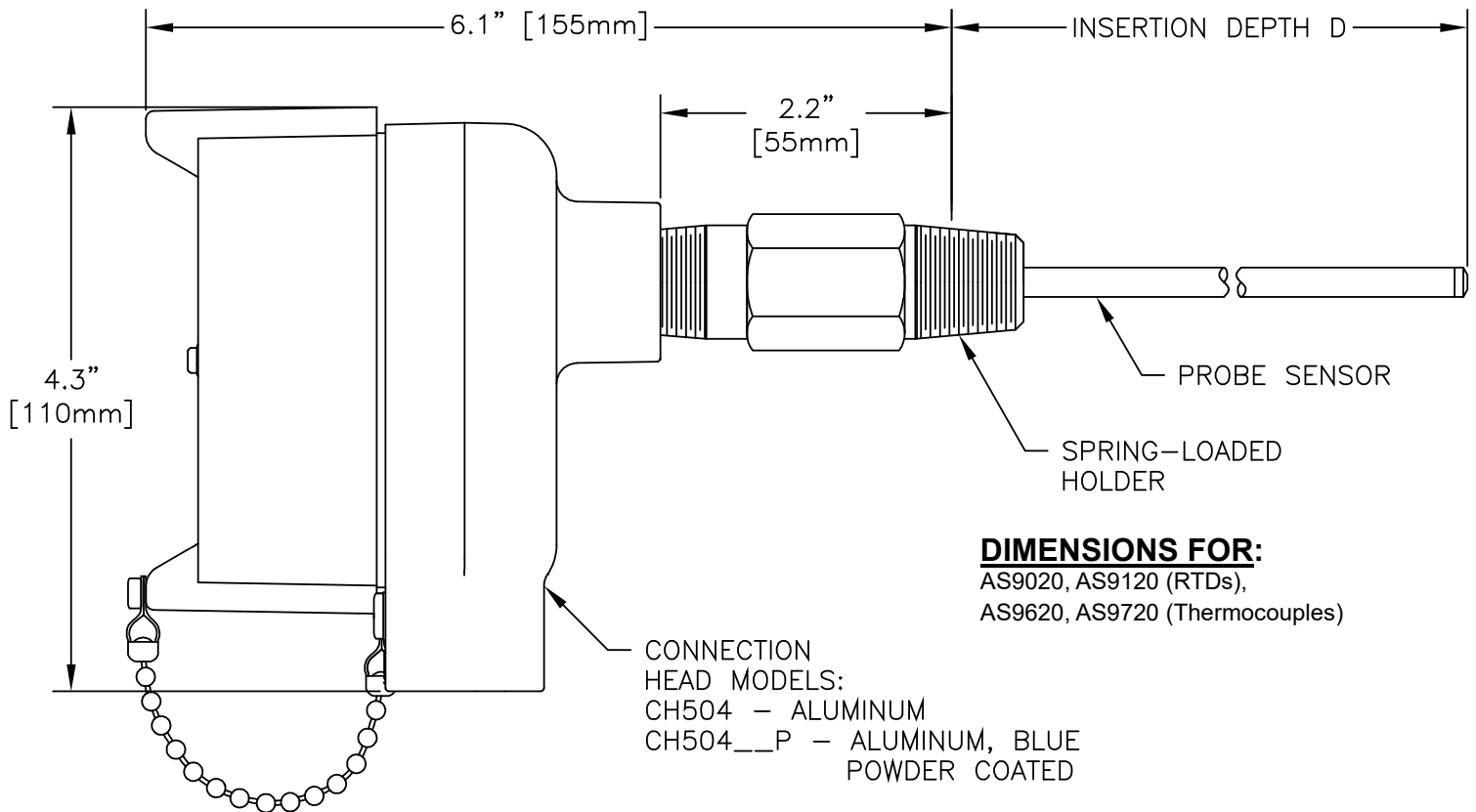
*NOTE: TW = thick wall (hand-bendable probe case).

Consult the Minco factory for complete list of specific options for each assembly type.

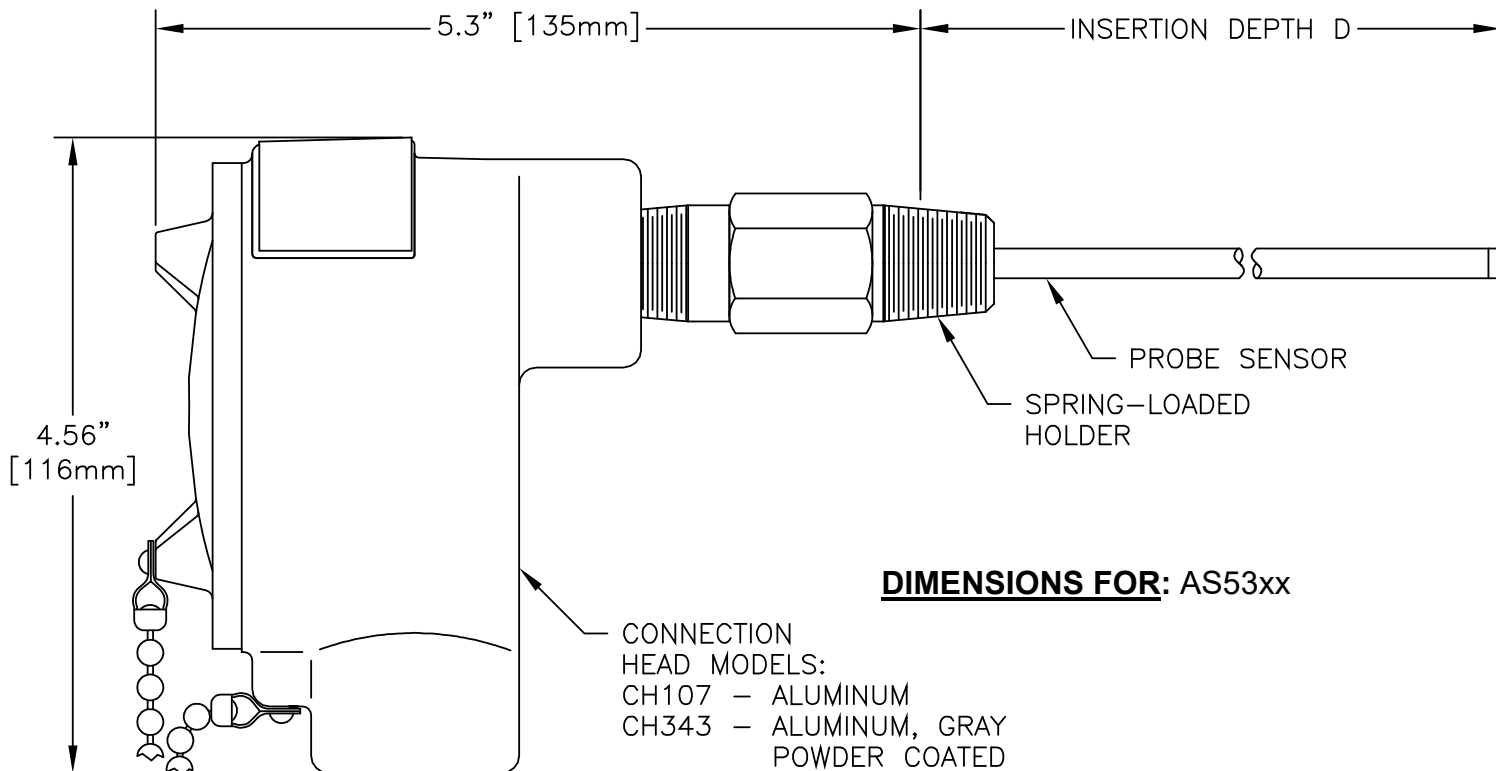
Comparison of AS51xx and AS101737 to AS90x and AS91x



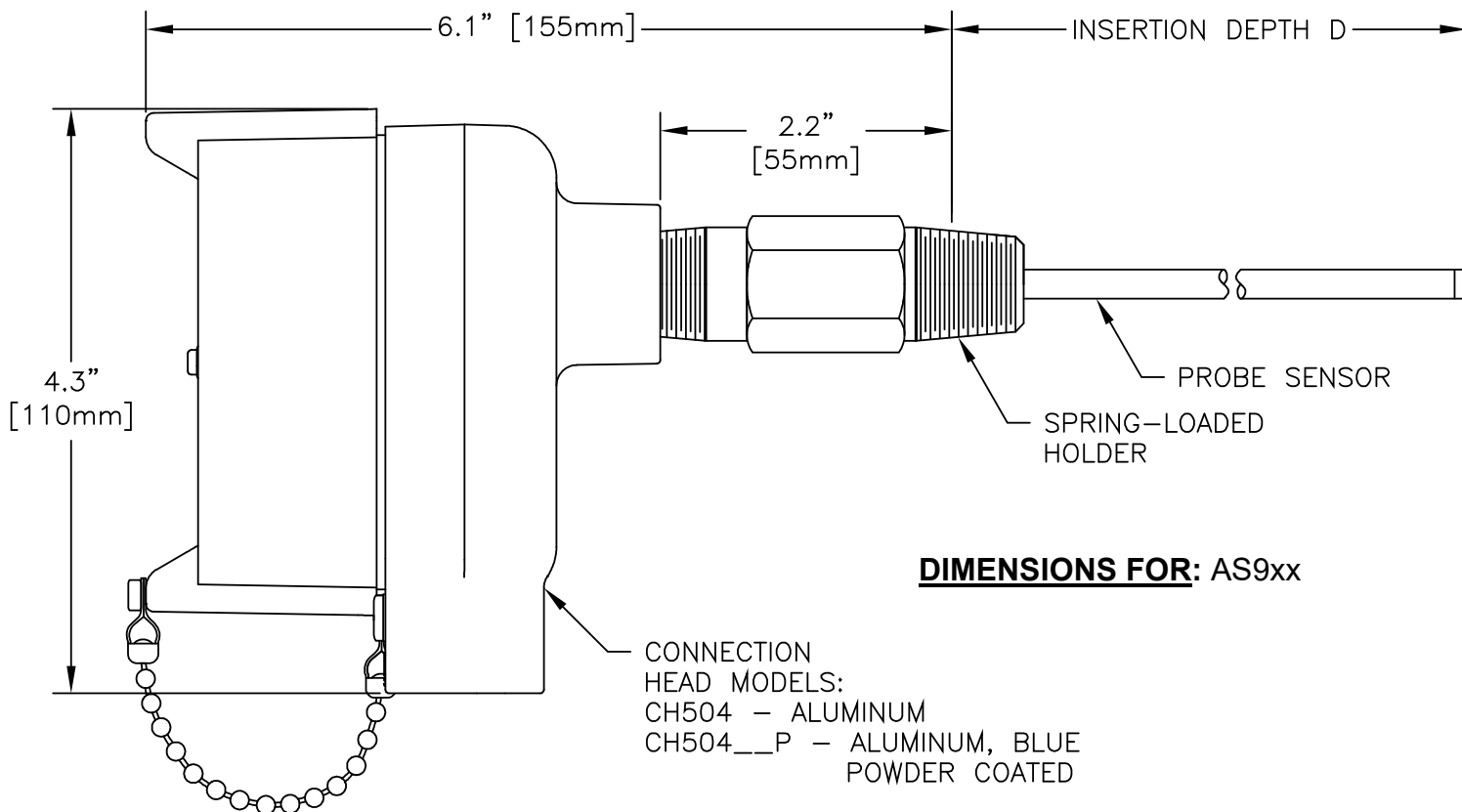
See connection head page for complete connection head dimensions.



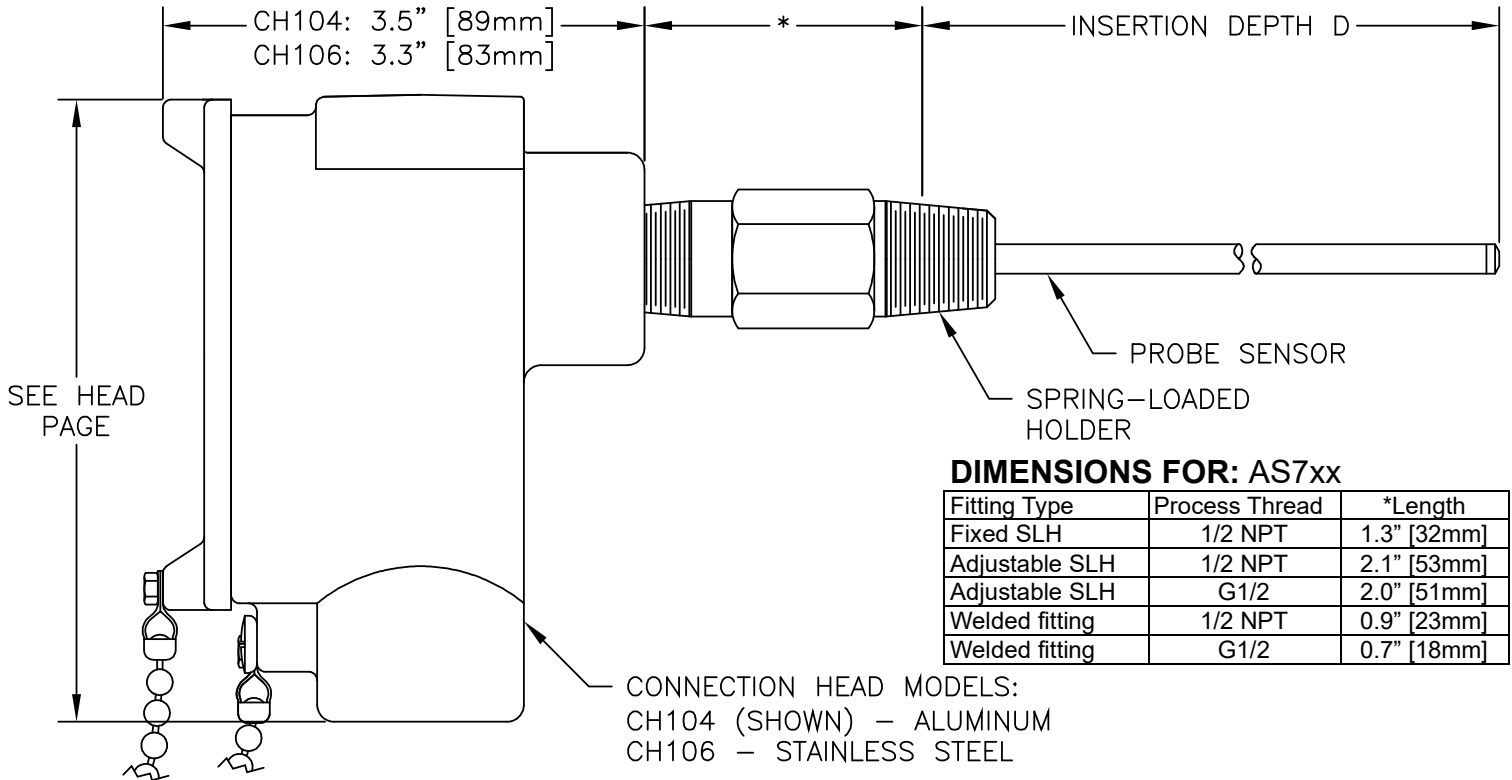
Comparison of AS53xx to AS9xx



See connection head page for complete connection head dimensions.



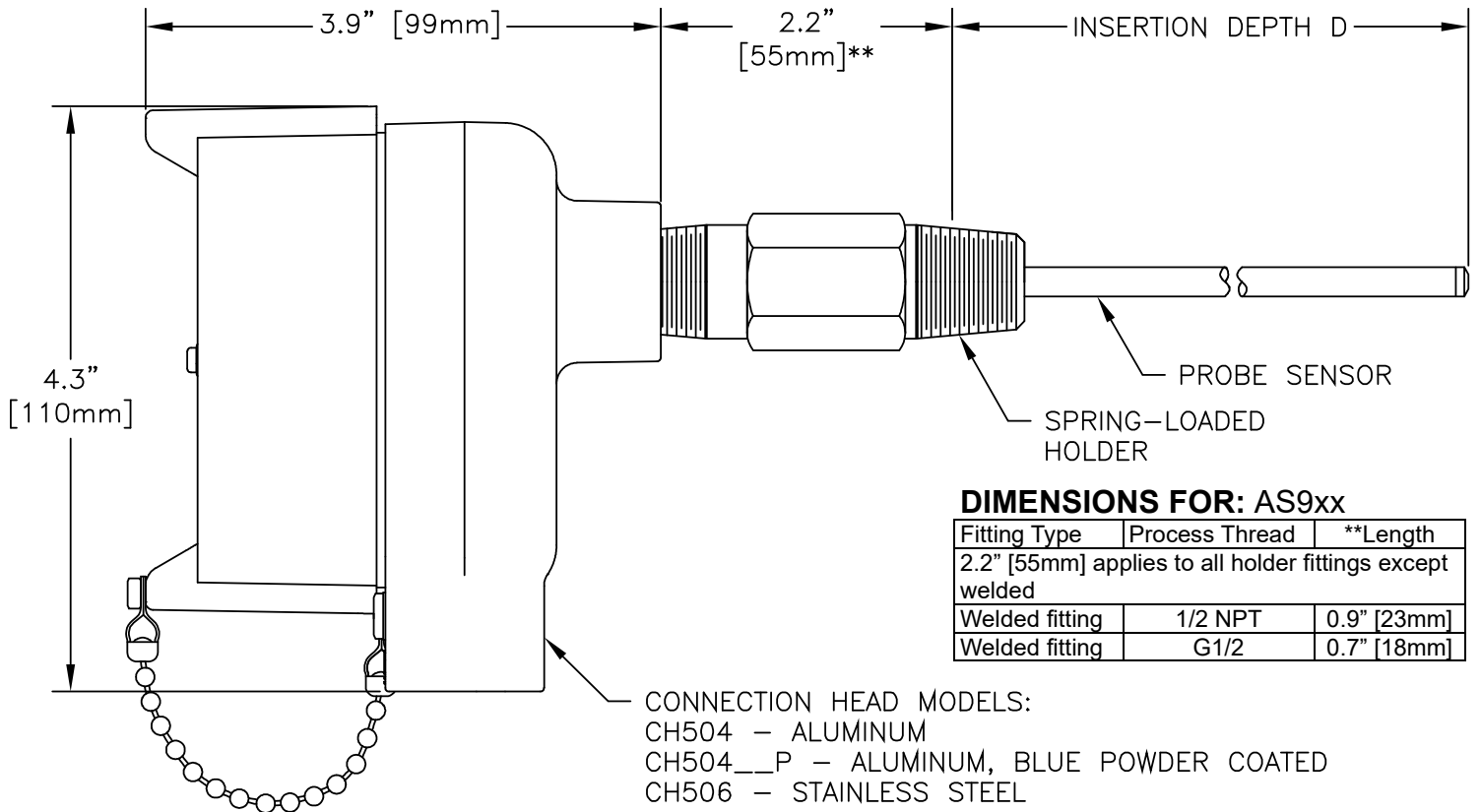
Comparison of AS7xx to AS9xx



DIMENSIONS FOR: AS7xx

Fitting Type	Process Thread	*Length
Fixed SLH	1/2 NPT	1.3" [32mm]
Adjustable SLH	1/2 NPT	2.1" [53mm]
Adjustable SLH	G1/2	2.0" [51mm]
Welded fitting	1/2 NPT	0.9" [23mm]
Welded fitting	G1/2	0.7" [18mm]

See connection head page for complete connection head dimensions.

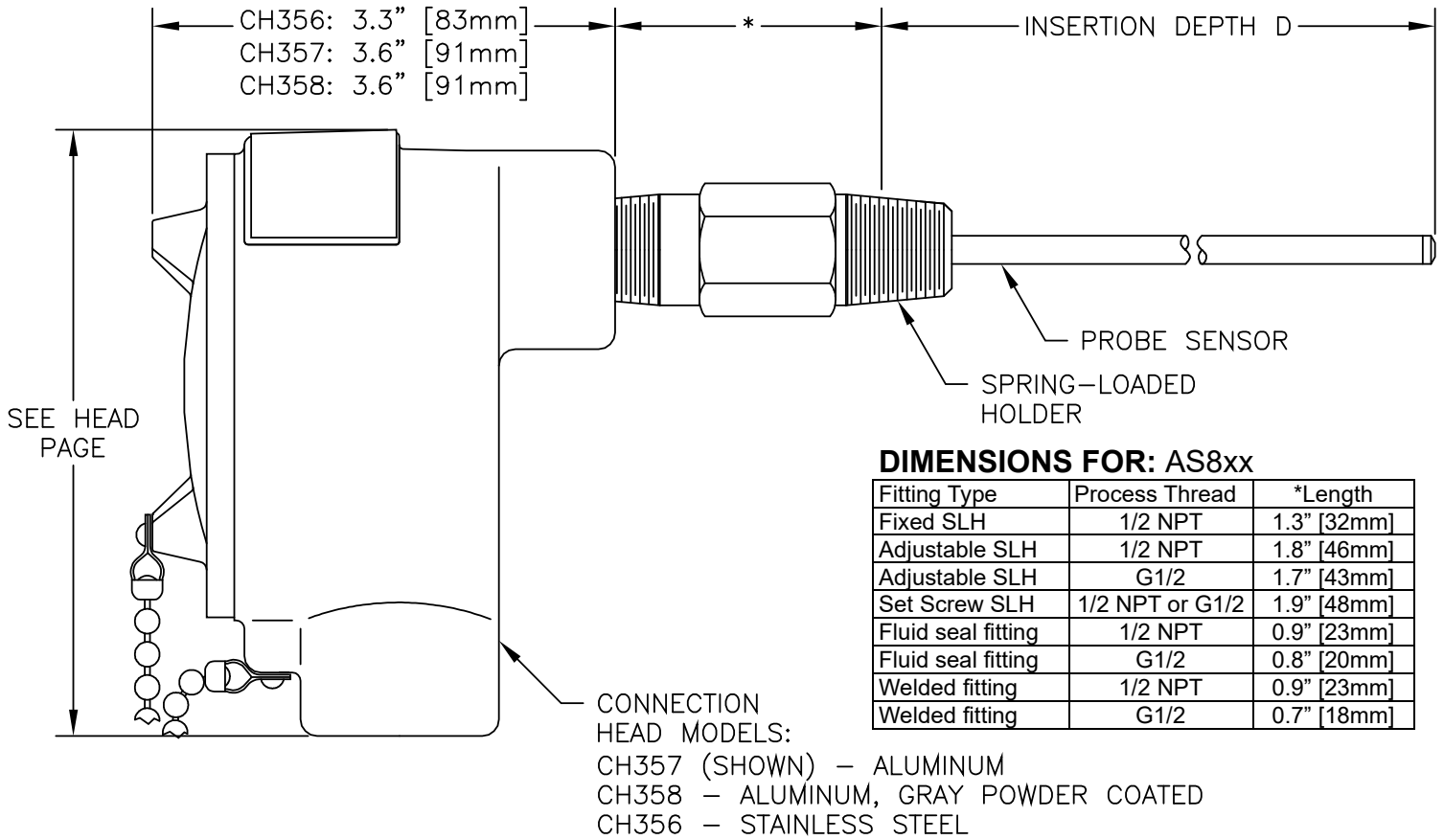


DIMENSIONS FOR: AS9xx

Fitting Type	Process Thread	**Length
2.2" [55mm]** applies to all holder fittings except welded		
Welded fitting	1/2 NPT	0.9" [23mm]
Welded fitting	G1/2	0.7" [18mm]



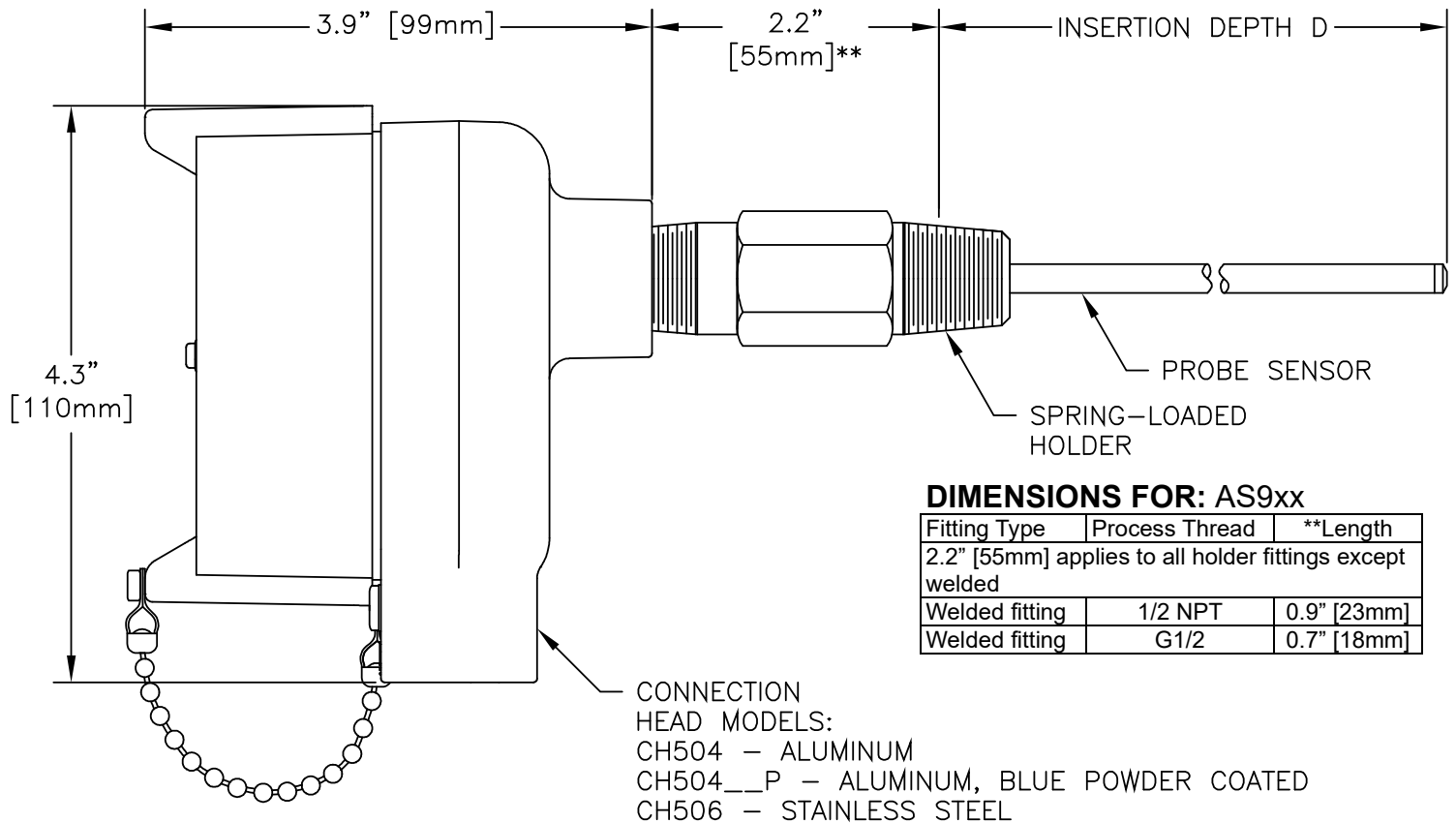
Comparison of AS8xx to AS9xx



DIMENSIONS FOR: AS8xx

Fitting Type	Process Thread	*Length
Fixed SLH	1/2 NPT	1.3" [32mm]
Adjustable SLH	1/2 NPT	1.8" [46mm]
Adjustable SLH	G1/2	1.7" [43mm]
Set Screw SLH	1/2 NPT or G1/2	1.9" [48mm]
Fluid seal fitting	1/2 NPT	0.9" [23mm]
Fluid seal fitting	G1/2	0.8" [20mm]
Welded fitting	1/2 NPT	0.9" [23mm]
Welded fitting	G1/2	0.7" [18mm]

See connection head page for complete connection head dimensions.



DIMENSIONS FOR: AS9xx

Fitting Type	Process Thread	**Length
2.2" [55mm]** applies to all holder fittings except welded		
Welded fitting	1/2 NPT	0.9" [23mm]
Welded fitting	G1/2	0.7" [18mm]

Ex Connection Heads Cross Reference List

CH104-CH107, CH342-CH343, CH356-CH358, CH405-CH407 vs New CH504/CH506

Classifications	Head Material & Enclosure rating	OLD HEADS	NEW HEADS*
U.S. and Canada: XP, CI I, Div 1, Groups BCD DIP, CI II, Div 1, Groups EFG, CI III, Div 1	Aluminum, Type 4, IP65	CH105, CH107	CH504
	Powder coated aluminum, Type 4/4X, IP66	CH342, CH343	CH504xxP
U.S. and Canada: XP, CI I, Div 1, Groups ABCD (A = U.S. only) DIP, CI II, Div 1, Groups EFG, CI III, Div 1	Aluminum, Type 4, IP65	CH405, CH407	None
U.S. and Canada: XP, CI I, Div 1, Groups BCD DIP, CI II, Div 1, Groups EFG, CI III, Div 1 NEC: CI I Zone 1, AEx db IIC Gb CEC: Zone 1, Ex db IIC Gb	Aluminum, Type 4, IP65	CH104	CH504
	Stainless steel, Type 4/4X, IP66	CH106	CH506
ATEX / IECEx: Flameproof: Ex db IIC Gb	Aluminum, Type 4, IP65	CH357	CH504
	Powder coated aluminum, Type 4/4X, IP66	CH358	CH504xxP
	Stainless steel, Type 4/4X, IP66	CH356	CH506

*CH504 / CH504xxP / CH506 Heads Classifications

ATEX/IECEx:

Flameproof: Ex db IIC Gb

Dust Proof: Ex tb IIIC Db

U.S. and Canada:

XP, CI I, Div 1, Groups BCD (no Group A)

DIP, CI II Div 1, Groups EFG, CI III Div 1

NEC: CI I, Zone 1, AEx db IIC Gb; Zone 21, AEx tb IIIC Db

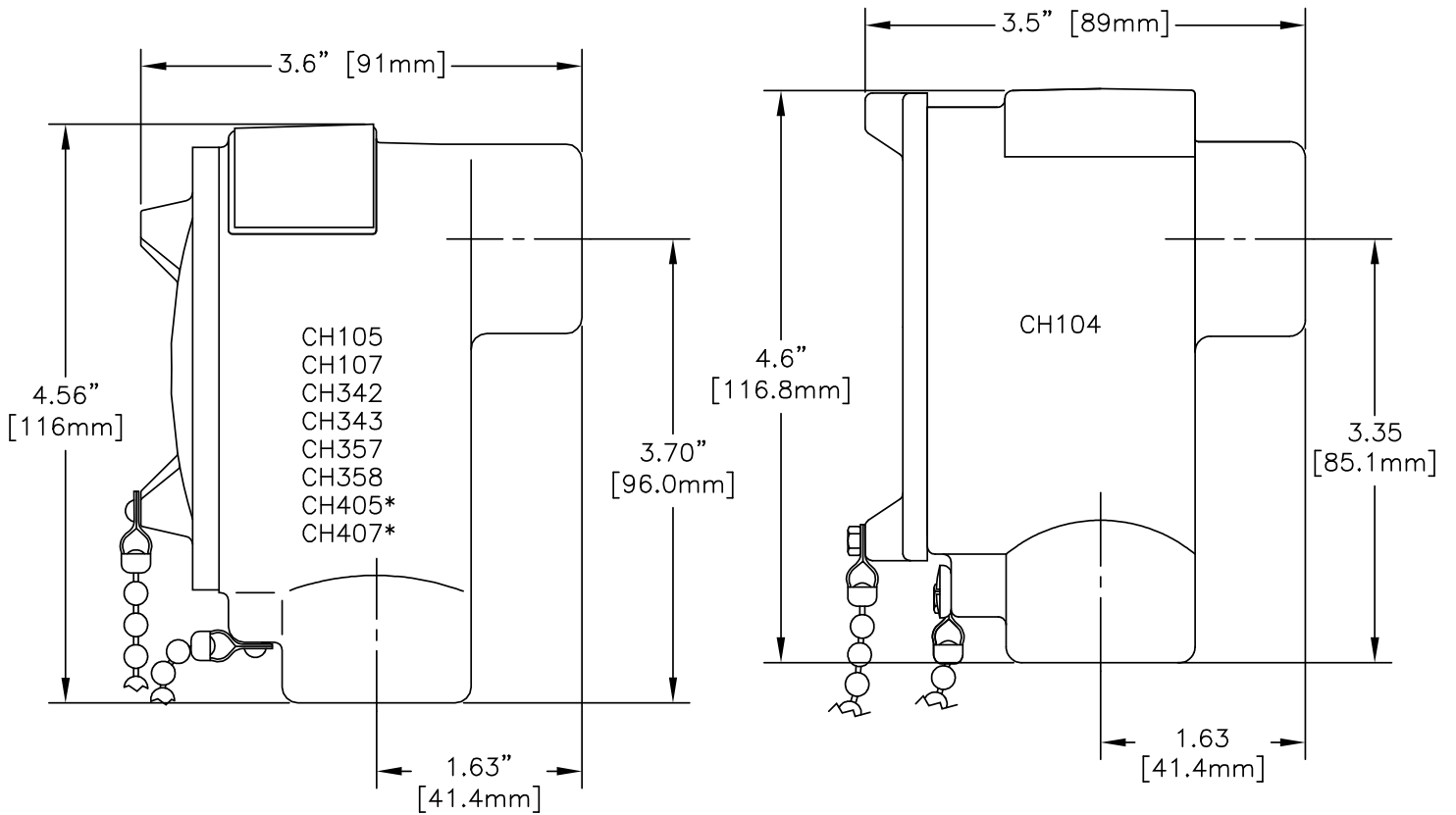
CEC: Ex db IIC Gb; Ex tb IIIC Db

Enclosure ratings:

CH504: Type 4, IP66

CH504xxP, CH506: Type 4/4X, IP66

Comparison of Old Ex Heads to CH504 and CH506



*CROSS-REFERENCE OF CH405 AND CH407
GROUP A HEADS NOT AVAILABLE.

